

ID		WBS	Task Name	Contact	Resource Initials	Duration	
0			D0 Grid Production Computing Initiative				
1		1	D0 Grid Production Architecture		AL	73 days	
2		1.1	INPUT: Original architecture document v1.2		AL	AL	0 days
3		1.2	High-level Architecture Document: draft - APIs, component responsibilities		AL	ASB,AL	7 days
4		1.3	milestone: Draft High-level Architecture Document		AL	AL	0 days
5		1.4	High-level Architecture Document: Review		AL	RDK,ASB	5 days
6		1.5	High-level Architecture Document: Revised version		AL	AL	8 days
7		1.6	High-level Architecture Document: Approval - ASB		AL	RDK	4 days
8		1.7	High-level Architecture Document: Approval - VW		AL	RDK	1 day
9		1.8	MILE 7: D0 Grid Production Architecture document done		AL		0 days
10		2	Adjust Responsibilities among SamGrid, D0runjob, D0repro, automic tools		GG		149 days
11		2.1	INPUT: Review of D0runjob interface		PM	PM	0 days
12		2.2	Decouple D0runjob macro and SamGrid		GG		4 days
13		2.2.1	INPUT: Interface changes documented		GG	PM	0 days
14		2.2.2	Decouple D0runjob macro and SamGrid development work		GG	PL	1 day
15		2.2.3	Decoupling: MC Job Type: SamGrid Integration		GG	PM	3 days
16		2.3	Ability to store output at any stage on demand		GG		141 days
17		2.3.1	Store output from any stage: SamGrid development/integration		GG	PM	1 day
18		2.3.2	Store output from any stage: Describe suitable test of feature		GG	PM	2 days
19		2.3.3	Store output from any stage: Create/submit requests to test feature		GG	MRQ	3 days
20		2.3.4	Store output from any stage: Production-level test		GG	JS	3 days
21		2.3.5	MILE 22: Store output from any stage of processing		GG		0 days
22		2.4	Start Prod via SAM Definition from Stage 2 of Prod: v1		GG		30 days
23		2.4.1	INPUT: Start Prod at Stage 2: D0runjob development		GG	PL	0 days
24		2.4.2	Start Prod at Stage 2: SamGrid development/integration		GG	PM	21 days
25		2.4.3	Start Prod at Stage 2: Production-level test		GG	JS	3 days
26		2.4.4	MILE 2: Start (MC) Production at Stage 2 - Working		GG		0 days
27		2.5	Error Recovery in Phased Processing		GG		35 days
28		2.5.1	Error Recovery: SamGrid development/integration		GG	PM	1 day
29		2.5.2	Error Recovery: Production-level test		GG	JS	5 days
30		2.5.3	milestone: Error Recovery in Phased Processing		GG		0 days
31		2.6	D0repro tools adapted to use Sam v7 request system		GG		115 days
32		2.6.1	D0repro tools adaptation: First 50% implementation		DW	DW	40 days
33		2.6.2	D0repro tools adaptation: Next 40% implementation		DW	DW	32 days
34		2.6.3	D0repro tools adaptation: Request impact on SamGrid and/or D0runjob		GG	RDK,GG	4 days
35		2.6.8	D0repro tools adaptation: Fix python interface to SAM request system		AL	SS	12 days
36		2.6.9	D0repro tools adaptation: Final 10% implementation		DW	DW	8 days
37		2.6.4	D0repro tools adaptation: Use generic runjob interfaces in Samgrid for data processing App		GG	PM	16 days
38		2.6.5	D0repro tools adaptation: Adjust D0runjob to use request system		GG	PL	15 days
39		2.6.6	D0repro tools adaptation: Production-level test		GG	JS	2 days
40		2.6.7	MILE 14: D0repro-tools uses Sam v7 request system		GG		0 days
41		2.7	Resolve how to add production paths in future		GG		15 days

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42		2.7.1	Generalization of Job Types according to I/O Characteristics	GG	PM	5 days	
43		2.7.2	Resolve how to add production paths in future: Document	GG	PM	5 days	
44		2.7.3	Resolve how to add production paths in future: D0 Approval	GG	ASB	5 days	
45		2.7.4	MILE 20: How to add production paths in future - resolved	GG		0 days	
46		2.8	Support testing v7/d0runjob/SamGrid functionality	GG		71 days	
47	✓	2.8.1	Survey current understanding of testing procedures	GG	RDK	6 days	
48	✓	2.8.2	D0GPCI FNAL testing meeting	GG		1 day	
49	✓	2.8.3	Testing responsibilities, procedures proposal	GG	GG	12 days	
50	✓	2.8.4	Agreement on Component and Integration testing	GG	GG,PL	8 days	
51	✓	2.8.5	Evaluate how D0runjob should set up WN environment	GG	AB2	4 days	
52	✓	2.8.6	D0runjob sets up its own environment	GG	PL	6 days	
53		2.8.7	Evaluate and sign-off on test facilities and procedures	GG	PL,DW,JS	5 days	
54		2.8.8	MILE 18: Support testing v7/d0runjob/SamGrid functionality	GG		0 days	
55	✉	2.9	Start Prod via SAM Definition from Stage 2 of Prod: v2	GG		12 days	
56		2.9.1	Start Prod at Stage 2: SamGrid notification=all bug fix	GG	PM	10 days	
57		2.9.2	Start Prod at Stage 2: Production-level re-test	GG	JS	2 days	
58		2.9.3	milestone: Start Prod at Stage 2 Ready for Production Release	GG		0 days	
59	✉	2.10	Evaluate Extensions to Development	GG		15 days	
60	✉	2.10.1	D0runjob/SamGrid Decoupling: Skim Job Type	GG		0 days	
61	✉	2.10.2	D0runjob/SamGrid Decoupling: Reco Job Type	GG		0 days	
62	✉	2.10.3	D0runjob/SamGrid Decoupling: Merge Job Type	GG		0 days	
63	✉	2.10.4	Start Prod via SAM Definition from Stage 3+ of Prod	GG		0 days	
64		2.10.5	Fabric interface no longer dependent on Job Type	GG		0 days	
65	✉	2.10.6	All merge code into D0runjob	PL		0 days	
66	💻	2.10.7	Write evaluation of extensions to development	GG	GG	15 days	
67		2.11	MILE 26: Tools have defined API, testing responsibilities	GG		0 days	
68	✉	3	Transition Operations Support from SamGrid Dev to Run2 Ops	GG,AL		181 days	
69		3.1	Operations Documentation	AL		134 days	
70	✓	3.1.1	Data Queues Doc	AL		67 days	
71	✓	3.1.1.1	INPUT: Data Queues Doc: Recent Draft	AL	AB2	0 days	
72	✓	3.1.1.2	Data Queues Doc: Feed-back, update	AL	AB3,AB2	5 days	
73	✓	3.1.1.3	Data Queues Doc: Approve	AL	AL	5 days	
74	✓	3.1.1.4	Data Queues Doc: Integrate into SamGrid Documentation	AL	DZ,AL	1 day	
75	✓	3.1.1.5	milestone: Data Queues Doc: Completed	AL		0 days	
76	✓	3.1.2	Forwarding Node Installation Doc	AL		68 days	
77	✓	3.1.2.1	INPUT: Fwd Node Install Doc: Recent Draft	AL	DZ	0 days	
78	✓✉	3.1.2.2	Fwd Node Install Doc: Hardware prep attempt	AL	SS	25 days	
79	✓✉	3.1.2.3	Fwd Node Install Doc: Feed-back	AL	SS	5 days	
80	✓	3.1.2.4	Fwd Node Install Doc: Integrate Dehong and Steve's documents	AL	DZ,SS	5 days	
81	✓	3.1.2.5	Fwd Node Install Doc: Approve	AL	AL	1 day	
82	✓	3.1.2.6	Fwd Node Install Doc: Integrate into SamGrid Installation Manual	AL	DZ	2 days	
83	✓	3.1.2.7	milestone: Fwd Node Install Doc: Completed	AL		0 days	

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84	✓	3.1.3	Integrating SRM Storage with SAM Doc	GG		7 days	
85	✓	3.1.3.1	SRM with SAM Doc: Integrate into SamGrid Documentation	GG	AB2	7 days	
86	✓	3.1.3.2	milestone: SRM with SAM Doc: Completed	GG		0 days	
87	✉	3.1.4	Operations Policies Doc	AL		89 days	
88	✓	3.1.4.1	Operations Policies doc: Draft	AL	AL	1 day	
89	✓	3.1.4.2	Operations Policies doc: Review	AL	GG,RDK	5 days	
90	✓	3.1.4.3	Operations Policies doc: Revised version	AL	AL	12 days	
91	✓	3.1.4.4	Operations Policies doc: Review, agreement	AL		7 days	
92		3.1.4.5	Operations Policies doc: Final version	AL	AL	3 days	
93		3.1.4.8	Operations Policies doc: Stakeholder Review	AL	MD	15 days	
94		3.1.4.6	Operations Policies doc: Approve - CD, D0	AL	ASB,RDK	3 days	
95		3.1.4.7	MILE 13: Grid Production Operations Policies doc done	AL		0 days	
96		3.1.5	milestone: Operations Documentation completed	AL		0 days	
97	✓	3.2	Operations Reduction and Transfer Planning	GG,AL		68 days	
98	✓	3.2.1	Current Operations Description	GG		33 days	
99	✓	3.2.1.1	INPUT: Write-up of operations issues	GG	GG	0 days	
100	✓	3.2.1.2	Current Operations description: draft - level and causes	GG	GG	4 days	
101	✓	3.2.1.3	Current Operations description: Review	GG	M,RDK,AL	5 days	
102	✓	3.2.1.4	Current Operations description: Revised version	GG	GG	2 days	
103	✓	3.2.1.5	Current Operations description: Approve	GG	ASB	1 day	
104	✓	3.2.1.6	milestone: Current Operations description	GG		0 days	
105	✓	3.2.2	Future Operations Staffing Doc	AL		13 days	
106	✓	3.2.2.1	INPUT: FY08 REX budget determined	RS	RS,AL	0 days	
107	✓	3.2.2.2	Future Operations description: draft - acceptable load level and activities	AL	RS,AL	6 days	
108	✓	3.2.2.3	Future Operations description: Review	AL	,RDK,ASB	5 days	
109	✓	3.2.2.4	Future Operations description: Approve	AL	ASB	2 days	
110	✓	3.2.2.5	milestone: Future Operations description	AL		0 days	
111	✓	3.2.3	Operations Reduction Plan: "Road To Operations"	GG		60 days	
112	✓	3.2.3.1	INPUT: Operations Reduction plan: Monitoring, Alarms proposal	GG	AB2	0 days	
113	✓	3.2.3.2	Operations Reduction plan: Overall draft	GG	GG	16 days	
114	✓	3.2.3.3	Operations Reduction plan: Review	GG	,RDK,AL	5 days	
115	✓	3.2.3.4	Operations Reduction plan: Revised version	GG	GG,AB2	10 days	
116	✓	3.2.3.5	MILE 4: Operations Reduction plan: Working plan ready	GG		0 days	
117	✉	3.2.3.6	Operations Reduction plan: Coordinate w/FEF	GG	GG	10 days	
118	✓	3.2.3.7	Operations Reduction plan: Approve - CD, D0	GG	ASB,RDK	2 days	
119	✉	3.2.3.8	milestone: Operations Reduction plan completed	GG		0 days	
120	✓	3.2.4	milestone: Operations Reduction and Transfer Planning completed	GG		0 days	
121	✓	3.3	Operations Transfer Execution	GG,AL		95 days	
122	✉	3.3.1	Operations Transfer: Phase 1 (Checklist)	GG,AL		18 days	
123	✓	3.3.1.1	SamGrid Requests to Sam Issue Tracker	GG,AL		2 days	
124	✓	3.3.1.1.1	Request SamGrid Users to open tickets	GG,AL	GG	1 day	
125	✓	3.3.1.1.2	Inform Sam shifters about handling SamGrid Requests	GG,AL	AL	1 day	

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126	✓	3.3.1.1.3	milestone: SamGrid Requests to Sam Issue Tracker	GG,AL		0 days	
127	✓	3.3.1.2	SamGrid Operations Checklist	GG		8 days	
128	✓	3.3.1.2.1	Write-up checklist	GG	PM	1 day	
129	✓	3.3.1.2.2	Review checklist	GG	GG,AL	3 days	
130	✓	3.3.1.2.3	Revise checklist	GG	PM	3 days	
131	✓	3.3.1.2.4	Checklist training, trial run	GG	PM,AL	0.5 days	
132	✓	3.3.1.2.5	Fine-tune checklist per feed-back	GG	PM	0.5 days	
133	✓	3.3.1.2.6	milestone: SamGrid Operations Checklist Transferred	GG		0 days	
134	✓	3.3.1.3	Adapt Operations Checklist to Ops-oriented Format	AL	AL,GG	9 days	
135	✓	3.3.1.3.1	Adapt to Ops-oriented format	AL	AL	5 days	
136	✓	3.3.1.3.2	Review, sign-off by GG, AB2	AL	GG,AB2	4 days	
137	✓	3.3.1.3.3	milestone: Adapt Operations Checklist to Ops-oriented Format	AL		0 days	
138	✓	3.3.1.4	MILE 3: Manual Checklist - Phase 1/4 of Ops Transfer done	GG,AL		0 days	
139	✓ 	3.3.2	Operations Transfer: Phase 2 (Fwd Nodes, Stations)	GG,AL		15 days	
140	✓	3.3.2.1	REX Ops co-performs ops tasks with SamGrid Dev (Level of Effort)	GG,AL	DEV,REX	15 days	
141	✓	3.3.2.2	Topical Operations Training and Docs as requested by REX ops (Level of Effort)	GG,AL	DEV,REX	15 days	
142	✓	3.3.2.3	MILE 5: Fwd Nodes - Phase 2/4 of Ops Transfer done	GG,AL		0 days	
143	✓ 	3.3.3	Operations Transfer: Phase 3 (Durable Locations, Queueing Nodes)	GG,AL		15 days	
144	✓	3.3.3.1	REX Ops co-performs ops tasks with SamGrid Dev (Level of Effort)	GG,AL	DEV,REX	15 days	
145	✓	3.3.3.2	Topical Operations Training and Docs as requested by REX ops (Level of Effort)	GG,AL	DEV,REX	15 days	
146	✓	3.3.3.3	MILE 10: Queueing,Durable Nodes - Phase 3/4 of Ops Transfer done	GG,AL		0 days	
147	✓ 	3.3.4	Operations Transfer: Phase 4 (Jim Client, plus all else)	GG,AL		15 days	
148	✓	3.3.4.1	REX Ops co-performs ops tasks with SamGrid Dev (Level of Effort)	GG,AL	DEV,REX	15 days	
149	✓	3.3.4.2	Topical Operations Training and Docs as requested by REX ops (Level of Effort)	GG,AL	DEV,REX	15 days	
150	✓	3.3.4.3	MILE 21: Jim_Client+ - Phase 4/4 of Ops Transfer done	GG,AL		0 days	
151	✓	3.3.5	milestone: Operations Transfer nominally completed	GG,AL		0 days	
152	✓	3.4	VDT Version Migration	GG		63 days	
153	✓	3.4.1	New VDT: VDT-oriented Testbed setup	GG	PM	8 days	
154	✓	3.4.2	New VDT: VDT-oriented Testbed resetup	GG	PM	2 days	
155	✓	3.4.3	New VDT: software adaptation and deployment	GG	PM	26 days	
156	✓	3.4.5	MILE 9: SamGrid migrated to new VDT version	GG		0 days	
157		3.5	Operations Reduction Execution: "Road To Operations"	GG		132 days	
158		3.5.1	Reinstall key machines with standard configuration	GG		89 days	
159	✓ 	3.5.1.1	Reach agreement among groups involved (by Sep 14)	GG	GG,AL	8 days	
160	✓	3.5.1.2	Reinstall Forwarding Nodes with standard configuration	GG,AL		81 days	
161	✓ 	3.5.1.2.1	Define standard fwd node machine configuration	GG	PM	2 days	
162	✓	3.5.1.2.2	Reinstall Forwarding Nodes: Oct 22- Nov 20	GG		79 days	
163	✓ 	3.5.1.2.2.1	Admins procure HW parts for all fwd nodes	GG	FEF	16 days	
164	✓	3.5.1.2.2.2	Reinstall Forwarding Node 1 (w/Sam Station)	GG		20 days	
165	✓	3.5.1.2.2.2.1	Admins configure candidate fwd node (by Oct 22)	GG	FEF	5 days	
166	✓	3.5.1.2.2.2.2	Developers install and test candidate fwd node (by Fri Oct 26)	GG	PM	3 days	
167	✓	3.5.1.2.2.2.4	Adjust current software to use standard location as default	GG	PM	1 day	

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168	✓ 	3.5.1.2.2.2.3	Adjust current installation instructions		GG	PM	1 day	
169	✓	3.5.1.2.2.2.5	REX ops re-installs on candidate machine		AL	SS	1 day	
170	✓	3.5.1.2.2.2.7	Admins and REX ops configure production fwd node		AL	FEF,SS	1 day	
171	✓ 	3.5.1.2.2.2.6	Switch candidate machine and d0srv047 (fwd + station) (Nov 6)		AL	SS	1 day	
172	✓	3.5.1.2.2.2.9	Diagnose, resolve, document 32-bit/64-bit compatibility issues		GG,AL	PM,SS	4 days	
173	✓	3.5.1.2.2.2.8	MILE 11: Forwarding Node w/Sam Station Reinstalled with std config		GG		0 days	
174	✓	3.5.1.2.2.3	INPUT: Test of fail-over in production environment		GG	PM	0 days	
175		3.5.1.2.2.4	Reinstall Forwarding Node 2		AL		7 days	
176	✓	3.5.1.2.2.4.1	REX ops drains and take production fwd node offline (d0srv15)		AL	SS	1 day	
177	✓	3.5.1.2.2.4.2	REX ops installs software on new production fwd node (samgfwd02)		AL	SS	2 days	
178		3.5.1.2.2.4.6	REX ops tests new production fwd node (samgfwd02)		AL	SS	3 days	
179		3.5.1.2.2.4.3	Put new fwd node in production, take old node out (samgfwd02, old: d0srv15)		AL	SS	1 day	
180		3.5.1.2.2.4.5	milestone: verified fwd node configuration and procedure		AL		0 days	
181		3.5.1.2.2.5	Reinstall Forwarding Node 3		AL		4 days	
182		3.5.1.2.2.5.1	REX ops drains and take production fwd node offline (d0srv66)		AL	SS	1 day	
183		3.5.1.2.2.5.2	REX ops installs software on new production fwd node (samgfwd03)		AL	SS	1 day	
184		3.5.1.2.2.5.5	REX ops tests new production fwd node (samgfwd03)		AL	SS	1 day	
185		3.5.1.2.2.5.3	Put new fwd node in production, take old node out (samgfwd03, old: d0srv66)		AL	SS	1 day	
186		3.5.1.2.2.7	MILE 15: OSG Fwd nodes reinstalled with std config		GG		0 days	
187	✓	3.5.1.2.2.8	Organize activities to prepare for LCG fwd node migration		GG	GG	13 days	
188		3.5.1.2.2.10	Reinstall LCG/UK Forwarding Node		AL		7 days	
189		3.5.1.2.2.10.5	Site ops drains and take production fwd node offline		AL	LCG	5 days	
190		3.5.1.2.2.10.6	REX ops installs software on LCG/UK fwd node		AL	SS	1 day	
191		3.5.1.2.2.10.7	REX ops puts fwd node back into system		AL	SS	1 day	
192		3.5.1.2.2.10.8	Site and REX ops configure production fwd node		AL	SS,LCG	3 days	
193		3.5.1.2.2.10.9	milestone: LCG/UK Forwarding Node reinstalled with std config		AL		0 days	
194		3.5.1.2.2.11	Reinstall LCG/Germany Forwarding Node		AL		9 days	
195		3.5.1.2.2.11.15	Site ops drains and take production fwd node offline		AL	LCG	5 days	
196		3.5.1.2.2.11.16	REX ops installs software on LCG/Germany fwd node		AL	SS	1 day	
197		3.5.1.2.2.11.17	REX ops puts fwd node back into system		AL	SS	1 day	
198		3.5.1.2.2.11.18	Site and REX ops configure production fwd node		AL	SS,LCG	2 days	
199		3.5.1.2.2.11.19	milestone: LCG/Germany Forwarding Node reinstalled with std config		AL		0 days	
200		3.5.1.2.3	milestone: Forwarding nodes reinstalled with standard configuration		GG		0 days	
201		3.5.1.3	Reinstall Queueing Node with standard configuration		GG,AL		57 days	
202	✓ 	3.5.1.3.1	Define standard queuing node machine configuration		GG	PM	5 days	
203	✓	3.5.1.3.2	Reinstall Queueing Node: Oct 19 - Nov 6		GG		21 days	
204	✓ 	3.5.1.3.2.1	Admins procure HW parts for samgrid-like node (job queuing, broker, web server)		GG	FEF	12 days	
205	✓	3.5.1.3.2.2	Admins configure test instance of samgrid-like node		GG	FGS	2 days	
206	✓	3.5.1.3.2.3	Developers install and test samgrid-like node (by Wed Nov 7)		GG	PM	2 days	
207	✓ 	3.5.1.3.2.4	Adjust current installation instructions		GG	PM	1 day	
208	✓	3.5.1.3.2.5	Adjust current software to use standard location as default		GG	PM	1 day	
209	✓	3.5.1.3.2.6	Admins configure production samgrid-like node		AL	FGS	1 day	

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210	✓	3.5.1.3.2.7	REX ops installs queuing software on production samgrid-like node		AL	SS	1 day	
211	✓	3.5.1.3.2.9	Dev ops installs web server software on production samgrid-like node		AL	PM	1 day	
212	✓	3.5.1.3.2.8	REX ops integrates new samgrid-like node into production system		AL		1 day	
213	✓	3.5.1.3.2.8.1	Replace samgrid.fnal.gov (Dec 4 downtime, prefer Nov 6 downtime)		AL	SS	1 day	
214	✓	3.5.1.3.3	MILE 12: Queuing node reinstalled with std config		GG		0 days	
215	✓	3.5.1.3.4	Diagnose job history incompatibility issues and create migration plan		GG	PM,GG	3 days	
216	✓	3.5.1.3.11	Prepare for migration from mixed old/new samgrid nodes to new node use only		GG	PM,GG	5 days	
217		3.5.1.3.5	Migrate MC Prod from mixed old/new samgrid nodes to new node use only		GG	JS	23 days	
218	✓	3.5.1.3.6	Migrate Prod from mixed old/new samgrid nodes to new node use only		GG	MD	7 days	
219		3.5.1.3.8	milestone: Migration to exclusive use of new samgrid node completed		GG		0 days	
220	✓	3.5.1.4	Reinstall Durable Locations with standard configuration		GG,AL		13 days	
221	✓ 	3.5.1.4.1	Define standard durable location machine configuration		GG	PM	9 days	
222	✓	3.5.1.4.2	Reinstall Durable Locations: Nov 9 - Nov 28		GG		4 days	
223	✓ 	3.5.1.4.2.1	MOOT: Admins procure HW parts(?) for test instance of durable location node		GG	FEF	0 days	
224	✓ 	3.5.1.4.2.2	MOOT: Admins configure test instance of durable location node (by Fri Nov 9)		GG	FEF	0 days	
225	✓	3.5.1.4.2.3	MOOT: Developers install and test durable location node (by Fri Nov 23)		GG	PM	0 days	
226	✓ 	3.5.1.4.2.4	Durable Locations: Adjust current installation instructions		GG	PM	1 day	
227	✓	3.5.1.4.2.5	MOOT: Adjust current software to use standard location as default		GG	PM	0 days	
228	✓	3.5.1.4.2.6	MOOT: REX ops re-installs on test machine		AL	SS	0 days	
229	✓	3.5.1.4.2.7	REX ops reconfigures existing durable locations		AL		0 days	
230	✓ 	3.5.1.4.2.7.1	MOOT: Stop tmr upload to d0srv063; REX ops reinstalls durable location		AL	SS	0 days	
231	✓ 	3.5.1.4.2.7.2	MOOT: Stop tmr upload to d0srv065; REX ops reinstalls durable location		AL	SS	0 days	
232	✓	3.5.1.4.3	MILE 17: Durable Locations reinstalled with std config		GG		0 days	
233		3.5.1.5	milestone: Standard configuration defined and key machines reinstalled		GG		0 days	
234		3.5.8	Create SamGrid Test Stand		AL		8 days	
235		3.5.8.1	REX ops installs software on test fwd node (d0srv15)		AL	SS	1 day	
236		3.5.8.2	Admins fix disk on test queue node (old samgrid)		AL	FEF	2 days	
237		3.5.8.5	REX ops installs software on test queue node (old samgrid)		AL	SS	1 day	
238		3.5.8.6	REX ops installs durable locations test machine		AL	SS	1 day	
239		3.5.8.3	Trial use of SamGrid test stand		AL	SS	3 days	
240		3.5.8.4	milestone: SamGrid test stand completed		AL		0 days	
241		3.5.2	Automate routine maintenance operations		GG		23 days	
242		3.5.2.1	Automatic clean up of job queues		GG		6 days	
243		3.5.2.1.3	Install auto-clean up for SamGrid job queue		GG	PM	2 days	
244		3.5.2.1.1	Manually clean up SamGrid job queue (samgrid.fnal.gov)		GG	SS	1 day	
245		3.5.2.1.4	Test/observe auto-clean up for SamGrid job queue		GG	PM,SS	1 day	
246		3.5.2.1.5	Install auto-clean up of OSG job queue		GG	PM	2 days	
247		3.5.2.1.6	Manually clean up OSG job queue (fwd nodes)		GG	SS	1 day	
248		3.5.2.1.2	Test/observe auto-clean up for OSG job queue		GG	PM,SS	1 day	
249		3.5.2.2	Automatic clean-up of disk areas		GG		5 days	
250		3.5.2.2.1	Resolve: Globus gatekeeper does not properly cleanup gass caches		GG	PM	1 day	
251		3.5.2.2.2	Periodically clean up gram log files at fwd nodes and exec sites		GG	PM	1 day	

ID	WBS	Task Name	Contact	Resource Initials	Duration
252	3.5.2.2.3	Clean up sandboxes and jim_tmp areas at fwd node	GG	PM	1 day
253	3.5.2.2.4	Clean up non-rotated log files (eg. Tomcat)	GG	PM	2 days
254	3.5.2.3	Automation of all gridmap file management (including condor_schedd)	GG	PM	2 days
255	3.5.2.4	Simplify maintenance of automatic clean-up scripts for durable locations	GG	AB2	4 days
256	3.5.2.5	Add the deployment of scripts to installation instructions	GG	PM	3 days
257	3.5.2.6	Assess automation of maintenance operations	GG	AL	3 days
258	3.5.2.7	MILE 23: Routine maintenance operations automated	GG		0 days
259	3.5.3	Improve robustness of key services	GG		37 days
260	3.5.3.1	Improve condor status querying performance: install, evaluate condor_quill	GG		13 days
261	3.5.3.1.1	Determine goal level, requirements	GG	PM	4 days
262	3.5.3.1.2	Determine existing querying performance	GG	PM	4 days
263	3.5.3.1.3	DECISION: test condor_quill or mitigate or live with current	GG		0 days
264	3.5.3.1.4	Evaluate condor_quill, if determined to be necessary	GG	PM	5 days
265	3.5.3.2	Improve algorithm for selection of OSG resources	GG	PM	6 days
266	3.5.3.3	milestone: Robustness in key services improved	GG		0 days
267	3.5.4	Automatic handling of job log files	GG		96 days
268	3.5.4.1	Reduce size of output sandbox	GG	AB2	1 day
269	3.5.4.2	Make output sandbox space management more robust	GG	AB2	1 day
270	3.5.4.3	Transfer output sandbox selection logic to Runjob: Initial Pass	GG	PL	20 days
271	3.5.4.8	Transfer output sandbox selection logic to Runjob: Testing	GG	AB2	8 days
272	3.5.4.7	Transfer output sandbox selection logic to Runjob: Post-Testing work	GG	PL	5 days
273	3.5.4.9	Logfile Access Tools			23 days
274	3.5.4.9.1	Specify tools for accessing old logfiles	GG	MD	5 days
275	3.5.4.9.2	Provide tools (to MD) for accessing old logfiles	GG	AB2	6 days
276	3.5.4.9.3	Test logfile access tools	GG	MD	5 days
277	3.5.4.9.4	Revise tools given customer feedback	GG	AB2	2 days
278	3.5.5	Automate system health alarms	GG		90 days
279	3.5.5.1	NGOP central service	GG		66 days
280	3.5.5.1.1	Define hardware	GG	AB2	1 day
281	3.5.5.1.2	Install basic NGOP server	GG	AB2	1 day
282	3.5.5.1.4	Deploy and test best schema as depicted	GG	AB2	1 day
283	3.5.5.1.5	Understand SAM-Grid representation requirements: Dev part	AL	AB2	5 days
284	3.5.5.1.6	Understand SAM-Grid representation requirements: Ops part	AL	RH	5 days
285	3.5.5.1.9	Static NGOP configuration approach (instead of automated)	AL	AB2,REX	8 days
286	3.5.5.1.3	Develop generic NGOP rules: alarm severity, paging/email notifications	AL	AL	3 days
287	3.5.5.1.8	milestone: NGOP central service prepared	GG		0 days
288	3.5.5.2	Samgrid_mon	GG		19 days
289	3.5.5.2.1	Develop persistent environment for repetitive task execution	GG	AB2	10 days
290	3.5.5.2.2	Develop converter between SamGrid config and next-gen cron	GG	AB2	5 days
291	3.5.5.2.4	Store duplicate configuration of fwd node	GG	AB2	1 day
292	3.5.5.2.5	Accept existing configuration of fwd node	GG	AB2	1 day
293	3.5.5.2.6	Dispatch list of monitoring agents periodically, collect statuses	GG	AB2	1 day

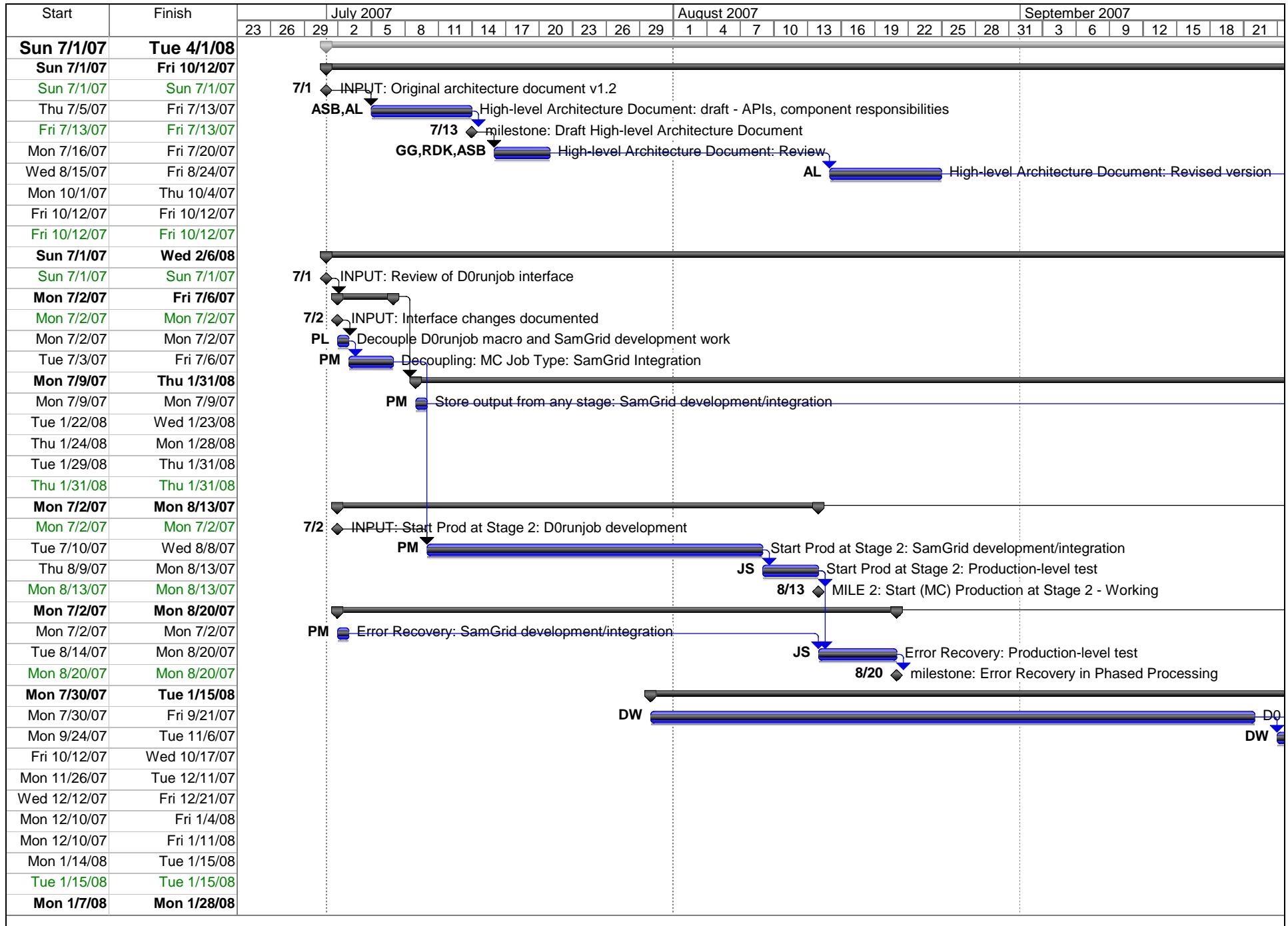
ID		WBS	Task Name	Contact	Resource Initials	Duration	
294	✓	3.5.5.2.7	Create distributable UPD package	GG	AB2	1 day	
295	✓	3.5.5.2.8	milestone: Samgrid_mon developed	GG		0 days	
296	✓	3.5.5.3	Develop monitoring scripts	GG		13 days	
297	✓	3.5.5.3.1	Develop generic scripts for Gridftp and Fcp monitoring	GG	AB2	1 day	
298	✓	3.5.5.3.3	Data Nodes: Stager, Durable location, caches, Gridftp, Fcp	GG	AB2	6 days	
299	✓ 	3.5.5.3.2	Forwarding Node: Gridftp, Fcp, Jim_advertise, XML db, Sandbox, opt. sched. component	GG	AB2	6 days	
300	✓	3.5.5.3.4	milestone: Monitoring scripts developed	GG		0 days	
301		3.5.5.5	Assess automation of alarming systems	GG	AB2	2 days	
302		3.5.5.6	Integration deployment and testing	GG	AB2	2 days	
303	✓	3.5.5.7	Documentation Initiation	GG	AB2	5 days	
304		3.5.5.14	Documentation Completion	GG	AB2	5 days	
305		3.5.5.4	MILE 19: System health alarms via NGOP with static config	GG		0 days	
306		3.5.5.11	Automated administration of NGOP schema and config	AL	RH	19 days	
307		3.5.5.12	Generate NGOP agents from set of monitoring scripts and config	GG	AB2	8 days	
308		3.5.5.13	Integration deployment and testing	GG	AB2	4 days	
309		3.5.5.9	Documentation Update	GG	AB2	3 days	
310		3.5.5.8	milestone: System health alarms via NGOP with automated config	GG		0 days	
311		3.5.6	Improve system testing infrastructure	GG		106 days	
312	✓	3.5.6.1	Simplify running test jobs	GG		3 days	
313	✓	3.5.6.1.1	Create test parameters for all job types	GG	AB2	1 day	
314	✓	3.5.6.1.2	Create and distribute JDL templates with test parameters	GG	AB2	1 day	
315	✓	3.5.6.1.3	Write testing instructions	GG	AB2	1 day	
316	✓	3.5.6.1.4	milestone: Running test jobs simplified per request	GG		0 days	
317		3.5.6.2	Automatic submission of test jobs	GG		25 days	
318		3.5.6.2.1	Develop automatic job management framework	GG	AB2,REX	10 days	
319		3.5.6.2.2	Automatic analysis of test results	GG	AB2,REX	10 days	
320		3.5.6.2.3	Integrate with alarming system	GG	AB2,REX	5 days	
321		3.5.6.2.4	milestone: Automatic submission of test jobs completed	GG		0 days	
322		3.5.7	milestone: End of the Road to Operations	GG		0 days	
323		3.6	Operations Reduction/Transfer: Close-out	GG,AL		2 days	
324		3.6.1	Evaluate operations load on dev and ops groups post-transition	GG,AL		2 days	
325		3.6.2	Evaluate operations processes post-transition	GG,AL		2 days	
326		3.6.3	milestone: Operations Reduction and Transfer closed out	GG,AL		0 days	
327		3.7	Other Operations-related Fixes and Upgrades	GG		118 days	
328	✓	3.7.1	Clarify D0 certificate approval process, personnel	GG	GG	5 days	
329		3.7.5	Fix "Immortal Jobs" Operations Issue	GG		9 days	
330		3.7.5.5	Fix Immortal Jobs: SamGrid development/integration	GG	PM	5 days	
331		3.7.5.6	Fix Immortal Jobs: Create/submit requests to test feature	GG	MRQ	1 day	
332		3.7.5.7	Fix Immortal Jobs: Production-level test	GG	JS	3 days	
333		3.7.5.8	milestone: Immortal Job Fix Ready for Production Release	GG		0 days	
334		4	D0 Primary Production on Fermigrid	MD		152 days	
335	✓	4.1	Initial Commissioning	MD		9 days	

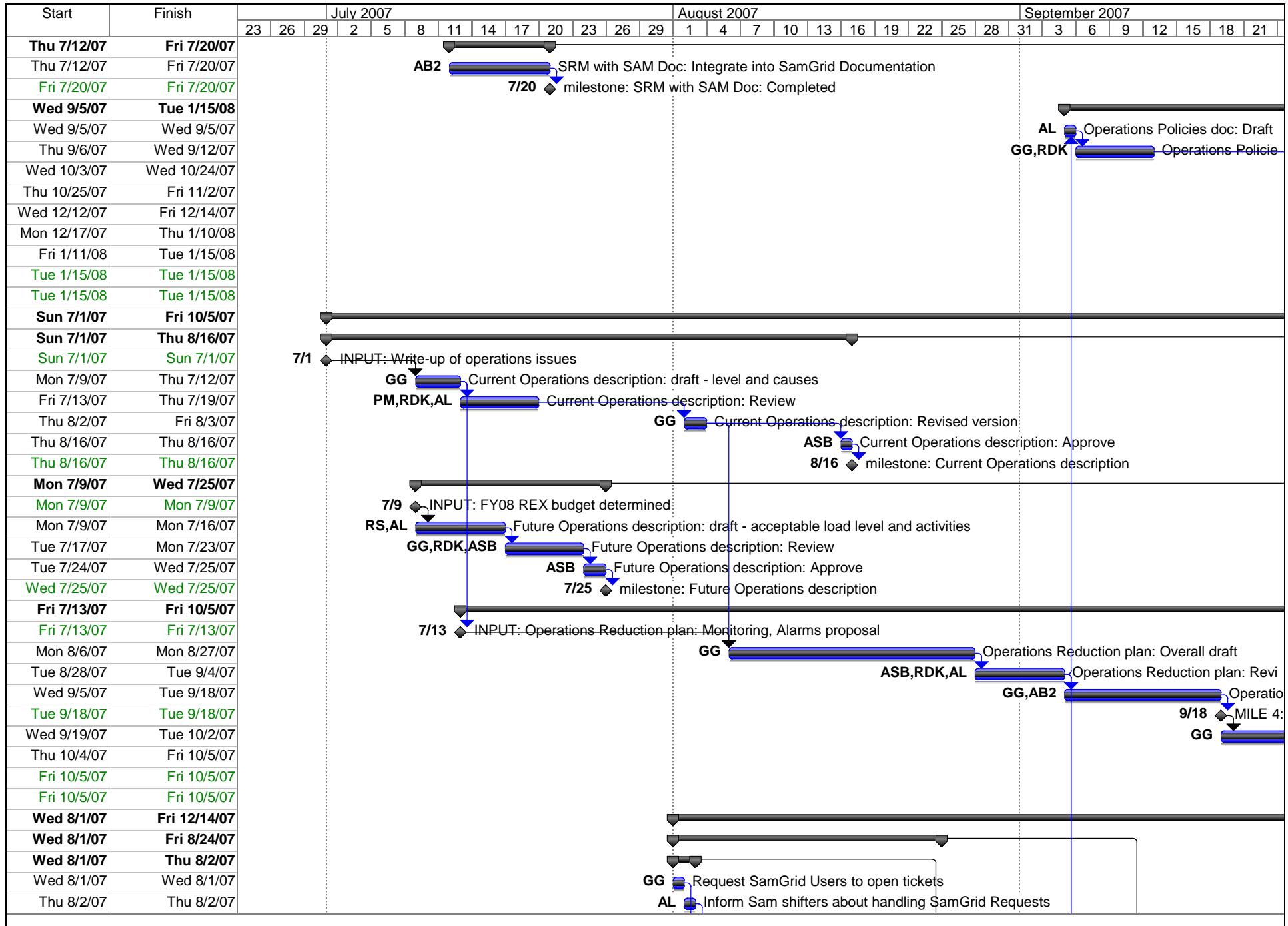
ID		WBS	Task Name	Contact	Resource Initials	Duration	
336	✓	4.1.1	INPUT: Attempt to run D0 Primary Production on FermiGrid	MD	MD	0 days	
337	✓	4.1.2	OSG/Fermigrid Resource Selection Meeting	MD	MD	0.5 days	
338	✓ 	4.1.3	Config D0Production role: Fermigrid, GUMS, CAB, PBS, etc.	ST,FEF	MD	6 days	
339	✓ 	4.1.4	Run D0 Primary Prod via D0Production role	MD	MD	1 day	
340	✓	4.1.5	MILE 1: D0 Primary Production Runnable on Fermigrid	MD		0 days	
341	✓	4.2	D0PPF Commissioning Evaluation Meeting	RDK		1 day	
342		4.3	Stable Operations	MD		112 days	
343	✓	4.3.1	Commissioning Follow-up	MD		9 days	
344	✓ 	4.3.1.1	Fix d0srv065 storage issues	MD	MD	3 days	
345	✓	4.3.1.2	Run D0 Primary Prod to verify storage fix	MD	MD	3 days	
346	✓	4.3.1.3	Scale-up D0 Primary Prod to 200 nodes	MD	MD	3 days	
347	✓	4.3.1.4	milestone: D0PPF Stable Ops: Commissioning follow-up completed	MD	MD	0 days	
348		4.3.2	Management Processes and Documentation	MD		99 days	
349	✓	4.3.2.1	Implement Change Management for feature requests using SAM IssueTracker	MD		1 day	
350	✓	4.3.2.2	Establish service level for stable operations and implications on system config	MD,GG,PM,JS		5 days	
351		4.3.2.3	Grid Production System workflow/dataflow diagram	RDK	RDK	6 days	
352		4.3.2.4	Grid Production System info on diagram: node roles, software, maintainers	RDK	RDK	5 days	
353	✓ 	4.3.2.5	Open Science Enclave baseline security plan - implications on SamGrid, CAB	MD,GG,FEF		20 days	
354		4.3.2.6	Job State diagram with most common error state causes	MD	PM	5 days	
355		4.3.2.7	milestone: D0PPF Stable Ops: Management Processes and Documentation done	MD		0 days	
356		4.3.3	System Monitoring	MD		27 days	
357	 	4.3.3.1	CAB web monitoring changes requested by MD,JS	RDK	FEF	5 days	
358		4.3.3.2	Improve job monitoring, include trend plots	RDK	EXT	6 days	
359		4.3.3.3	Augment Job States to be more meaningful to large customer	GG	PM	5 days	
360		4.3.3.4	milestone: D0PPF Stable Ops: System Monitoring done	MD		0 days	
361		4.3.4	Specific System Services Issues	MD		55 days	
362		4.3.4.1	Allow access by MD to dir/files on CAB owned by dzeropro (suggested: get root access)	MD	MD	1 day	
363		4.3.4.2	JIM production release consistent with d0runjob v7-7-3 and higher	MD	MD	3 days	
364	✓ 	4.3.4.3	Evaluate use of ReSS (more flexible than use of roles)	GG	GG	28 days	
365		4.3.4.5	Adapt to use ReSS in D0GPCI	GG	GG	10 days	
366		4.3.4.4	milestone: D0PPF Stable Ops: Specific System Services done	MD		0 days	
367		4.3.5	General System Services Issues (Road to Operations)	GG		95 days	
368		4.3.5.1	INPUT: (3.4.1) Standardize file system layout on SamGrid nodes	GG		0 days	
369		4.3.5.2	INPUT: (3.4.1) Get all nodes governing operation in a consistent, known state	GG		0 days	
370		4.3.5.3	INPUT: (3.4.2.3) Evaluate how to reduce bandwidth consumed by moving logs	GG		0 days	
371	✓	4.3.5.4	INPUT: (3.4.2.3.1) Make Custom output support smarter, use compression	GG	AB2	0 days	
372		4.3.5.5	INPUT: (3.4.2.3.2) Migrate Custom output support from SAM wrapper to D0runjob	GG		0 days	
373	✓ 	4.3.5.6	INPUT: (3.4.2.3.3) Implement a logfile archive node	GG		0 days	
374		4.3.5.7	milestone: D0PPF Stable Ops: General System Services done	GG		0 days	
375		4.3.6	Stable Operations Service Challenge	MD		8 days	
376		4.3.6.1	Define conditions of challenge	MD	MD	1 day	
377		4.3.6.2	Service Challenge execution	MD	MD	5 days	

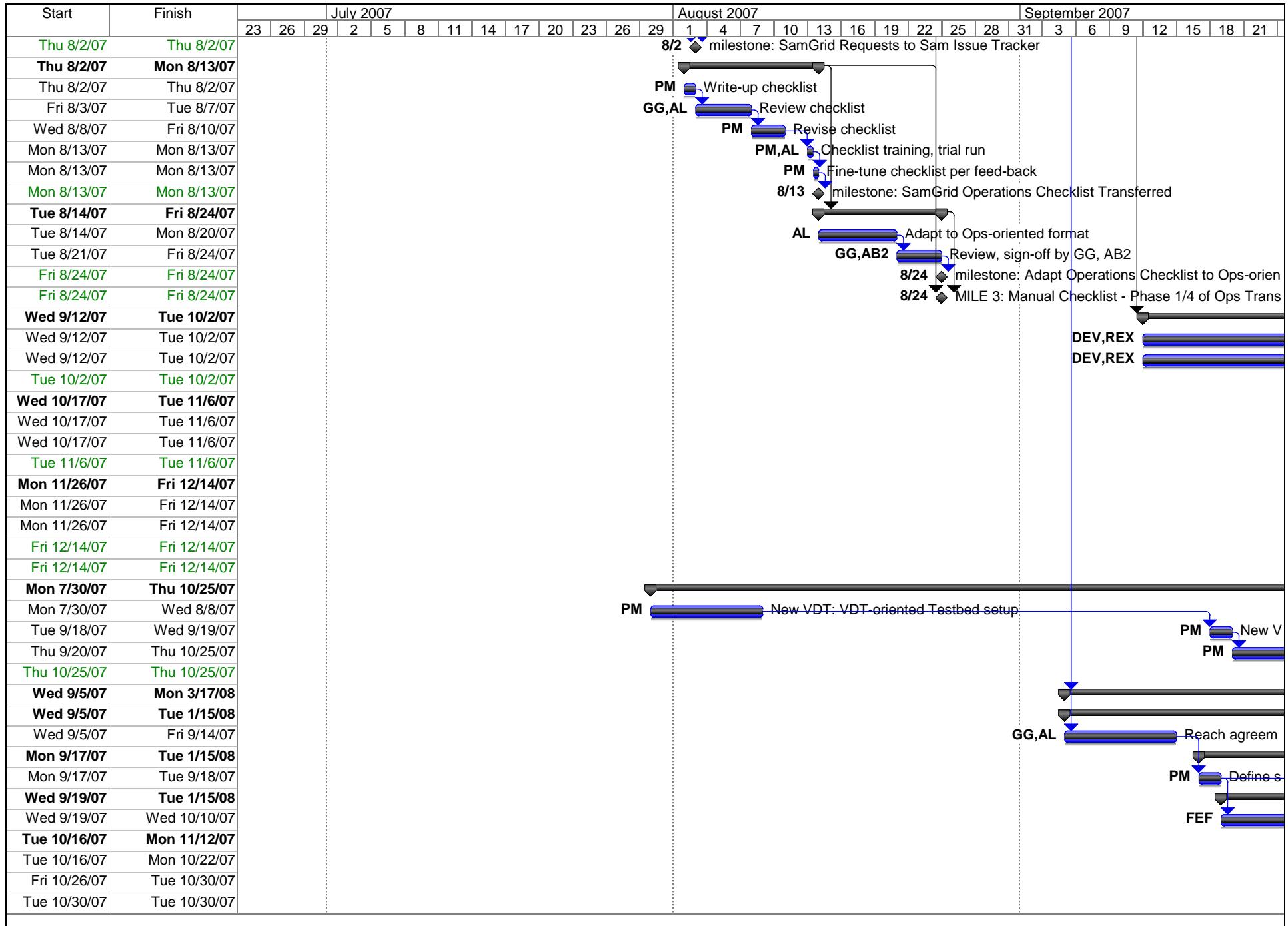
ID	WBS	Task Name	Contact	Resource Initials	Duration
378	4.3.6.3	Service Challenge evaluation	MD		2 days
379	4.3.6.4	milestone: Service Challenge completed	MD		0 days
380	4.3.7	milestone: D0 Primary Production on Fermigrid meets stability criteria	MD		0 days
381	4.4	D0PPF Operations Evaluation Meeting	RDK		1 day
382	4.7	MILE 28: D0 Primary Production Stable on Fermigrid	MD		0 days
383	5	Extend Grid Production System Functionality	GG		83 days
384	5.1	Forwarding Node Behind Firewall	GG		5 days
385	5.1.1	Forwarding Node Behind Firewall: Evaluate, determine best course of action	GG	AB2	5 days
386	5.2	Minimal Resource Brokering	GG		20 days
387	5.2.1	Minimal Resource Brokering: Evaluate, determine best course of action	GG	GG	20 days
388	5.3	MILE 16: Grid Production System functionality completed	GG		0 days
389	6	Preparation of D0 Apps for Long-term	ASB		53 days
390	6.1	Skimming	HG		5 days
391	6.1.1	Productize Skimming	D0	D0	5 days
392	6.2	CAF Trees			5 days
393	6.2.1	Productize CAF Tree generation	D0	D0	5 days
394	6.3	Raw2Sim			5 days
395	6.3.1	Productize Raw2Sim	D0	D0	5 days
396	6.4	AADST			53 days
397	6.4.1	Productize AADST	D0	D0	5 days
398	6.4.3	Enable data migration to SAM storage	AL	AL	2 days
399	6.4.4	Track data migration to SAM storage	AL	AL	46 days
400	6.4.5	Perform data migration to SAM storage	AL	D0	51 days
401	6.5	MILE 24: Preparation of D0 Apps for long-term	ASB		0 days
402	7	Evaluation of D0 SamGrid Requests	RDK		66 days
403	7.1	Reco			0 days
404	7.1.1	EVAL: Ability to merge more than 1 stream from Reco	RDK		0 days
405	7.2	MC Production			0 days
406	7.2.1	EVAL: Ability to run TrigSim in MC Production	RDK		0 days
407	7.3	Skimming			0 days
408	7.3.1	EVAL: Skimming in Production	RDK		0 days
409	7.4	EVAL: Fixing			0 days
410	7.5	Raw2Sim			0 days
411	7.5.1	EVAL: Run raw2sim on minbias files	RDK		0 days
412	7.6	Reco-cert			66 days
413	7.6.1	EVAL: Merging of reco-cert files	RDK		0 days
414	7.6.2	Stand-alone production of reco-cert output on SamGrid			9 days
415	7.6.2.1	Develop WBS for implementing S/A Recocert on SamGrid	RDK	RDK	9 days
416	7.7	CAF Trees			0 days
417	7.7.1	EVAL: CAF Trees from Production	RDK		0 days
418	7.8	EVAL: MC CAF Trees	RDK		0 days
419	7.9	EVAL: AADST	RDK		0 days

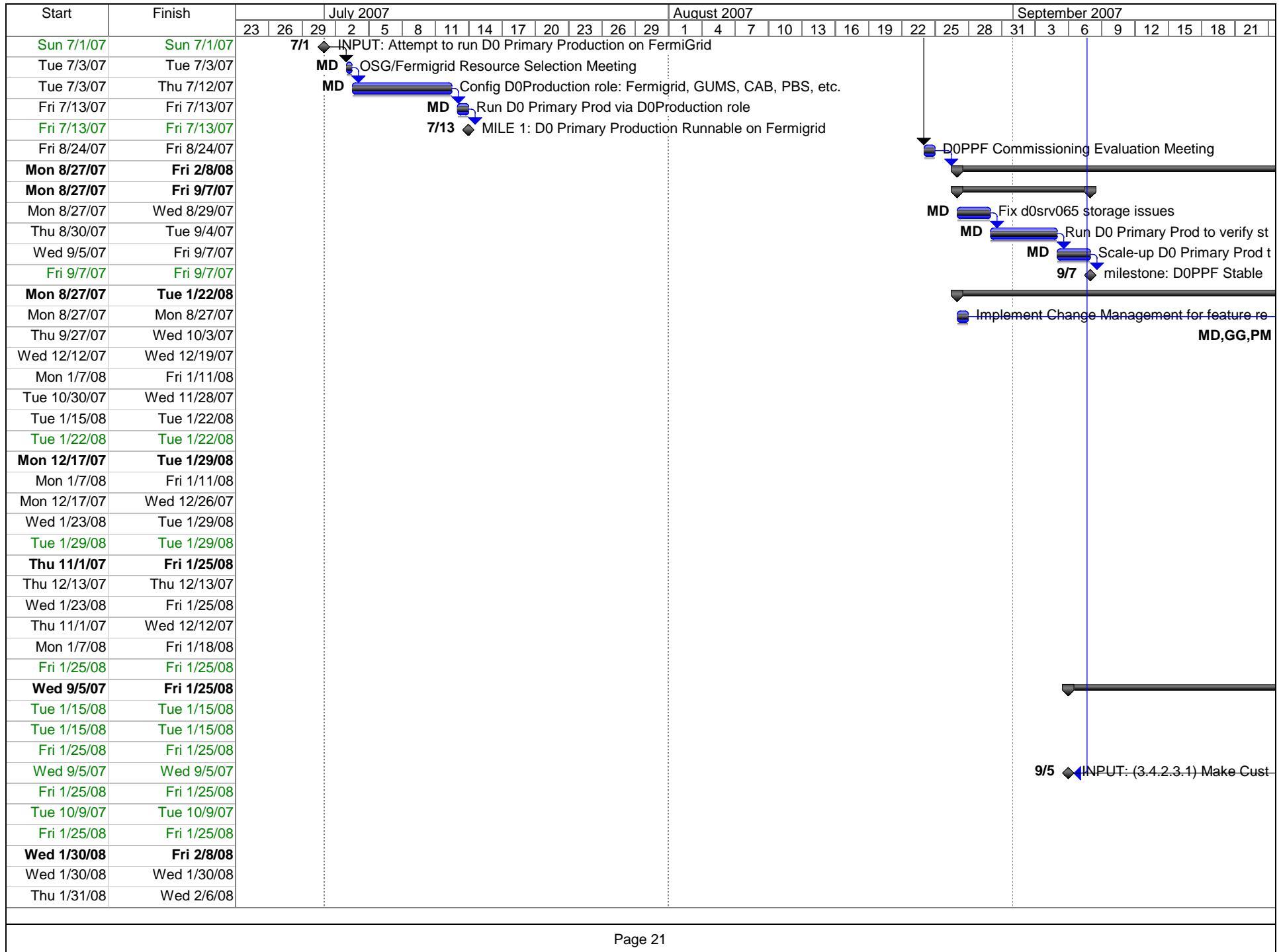
ID		WBS	Task Name	Contact	Resource Initials	Duration	
420		7.10	EVAL: Grid Analysis	RDK		0 days	
421		7.12	Evaluate remaining D0 SamGrid Requests	RDK		66 days	
422		7.12.2	Develop generic WBS for adapting D0 Apps to Grid Production	RDK	RDK	9 days	
423		7.12.3	Create form to capture D0 App requirements, workflow, use patterns	RDK	RDK	10 days	
424		7.12.4	Create maintainable list of known portability issues for D0 Apps on Grid	RDK	RDK	10 days	
425		7.12.1	Write evaluation of requests based on generic WBS	RDK	RDK	10 days	
426		7.12.5	D0 SamGrid Requests Evaluation: Review	RDK		4 days	
427		7.12.6	D0 SamGrid Requests Evaluation: Revision	RDK	RDK	2 days	
428		7.12.7	D0 SamGrid Requests Evaluation: Approval	RDK		2 days	
429		7.11	MILE 25: Evaluation of D0 SamGrid Requests done	RDK		0 days	
430		8	Project Management	RDK		188 days	
431		8.1	INPUT: Draft Preliminary High-level WBS	RDK	RDK	0 days	
432		8.2	Initiative Coordination Meeting	RDK		136.13 days	
433		8.2.1	Initiative Coordination Meeting 1	RDK		1 hr	
434		8.2.2	Initiative Coordination Meeting 2	RDK		1 hr	
435		8.2.3	Initiative Coordination Meeting 3	RDK		1 hr	
436		8.2.4	Initiative Coordination Meeting 4	RDK		1 hr	
437		8.2.5	Initiative Coordination Meeting 5	RDK		1 hr	
438		8.2.6	Initiative Coordination Meeting 6	RDK		1 hr	
439		8.2.7	Initiative Coordination Meeting 7	RDK		1 hr	
440		8.2.8	Initiative Coordination Meeting 8	RDK		1 hr	
441		8.2.9	Initiative Coordination Meeting 9	RDK		1 hr	
442		8.2.10	Initiative Coordination Meeting 10	RDK		1 hr	
443		8.2.11	Initiative Coordination Meeting 11	RDK		1 hr	
444		8.2.12	Initiative Coordination Meeting 12	RDK		1 hr	
445		8.2.13	Initiative Coordination Meeting 13	RDK		1 hr	
446		8.2.14	Initiative Coordination Meeting 14	RDK		1 hr	
447		8.2.15	Initiative Coordination Meeting 15	RDK		1 hr	
448		8.3	Project Planning	RDK		78.9 days	
449		8.3.1	WBS/Schedule v0.8 for 3/7 objectives	RDK	RDK	10 days	
450		8.3.2	milestone: WBS/Schedule v0.8, begin weekly status'ing	RDK		0 days	
451		8.3.3	WBS/Schedule v0.9 for 5/7 objectives	RDK	RDK	13 days	
452		8.3.4	milestone: Plan v0.9 sufficient to drive near-term work	RDK		0 days	
453		8.3.5	Draft WBS/Schedule v1.0 for 7/7 objectives	RDK	RDK,GG	32 days	
454		8.3.6	Big Baseline Planning Meeting	RDK		1 day	
455		8.3.7	Create Baseline Project Plan v1.0	RDK	RDK	2 days	
456		8.3.8	MILE 6: Baseline Project Plan v1.0 released	RDK		0 days	
457		8.3.9	Baseline Project Plan: Executive Presentations	RDK	RDK	4 days	
458		8.3.12	Baseline Project Plan v1.0: Integrate feed-back	RDK	RDK	2 days	
459		8.3.13	Baseline Plan Project v1.1: Drop tasks pushed out past end of Initiative	RDK	RDK	2 days	
460		8.3.14	MILE 8: Project Plan v1.1	RDK		0 days	
461		8.4	Project Administration	RDK		133.9 days	

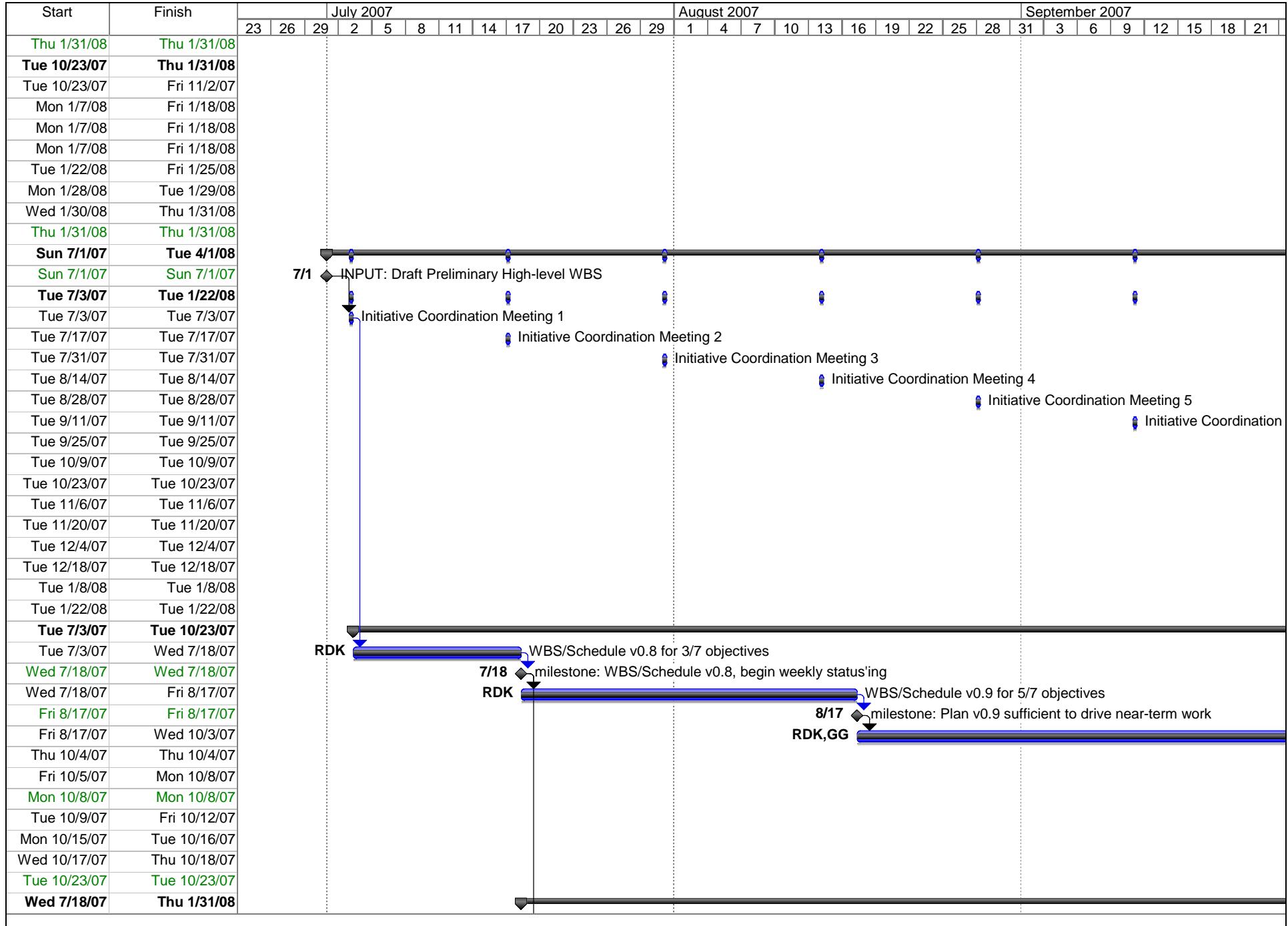
ID		WBS	Task Name	Contact	Resource Initials	Duration	
462		8.4.1	Planning Phase (Level of Effort = 5%)	RDK	RDK	48 days	
463		8.4.2	Execution Phase (Level of Effort = 15%)	RDK	RDK	66 days	
464		8.5	Project Close-out	RDK		7 days	
465		8.5.1	Project Close-out Meeting	RDK	RDK	1 day	
466		8.5.2	Project Close-out Report	RDK	RDK	2 days	
467		8.5.3	Project Close-out Report Approval: ABS, CD	RDK	RDK,ASB	3 days	
468		8.5.4	Archive project artifacts	RDK	RDK	1 day	
469		8.5.5	milestone: Initiative Closed-out	RDK		0 days	
470		9	MILE 29: D0 GPC Initiative completed	ASB		0 days	



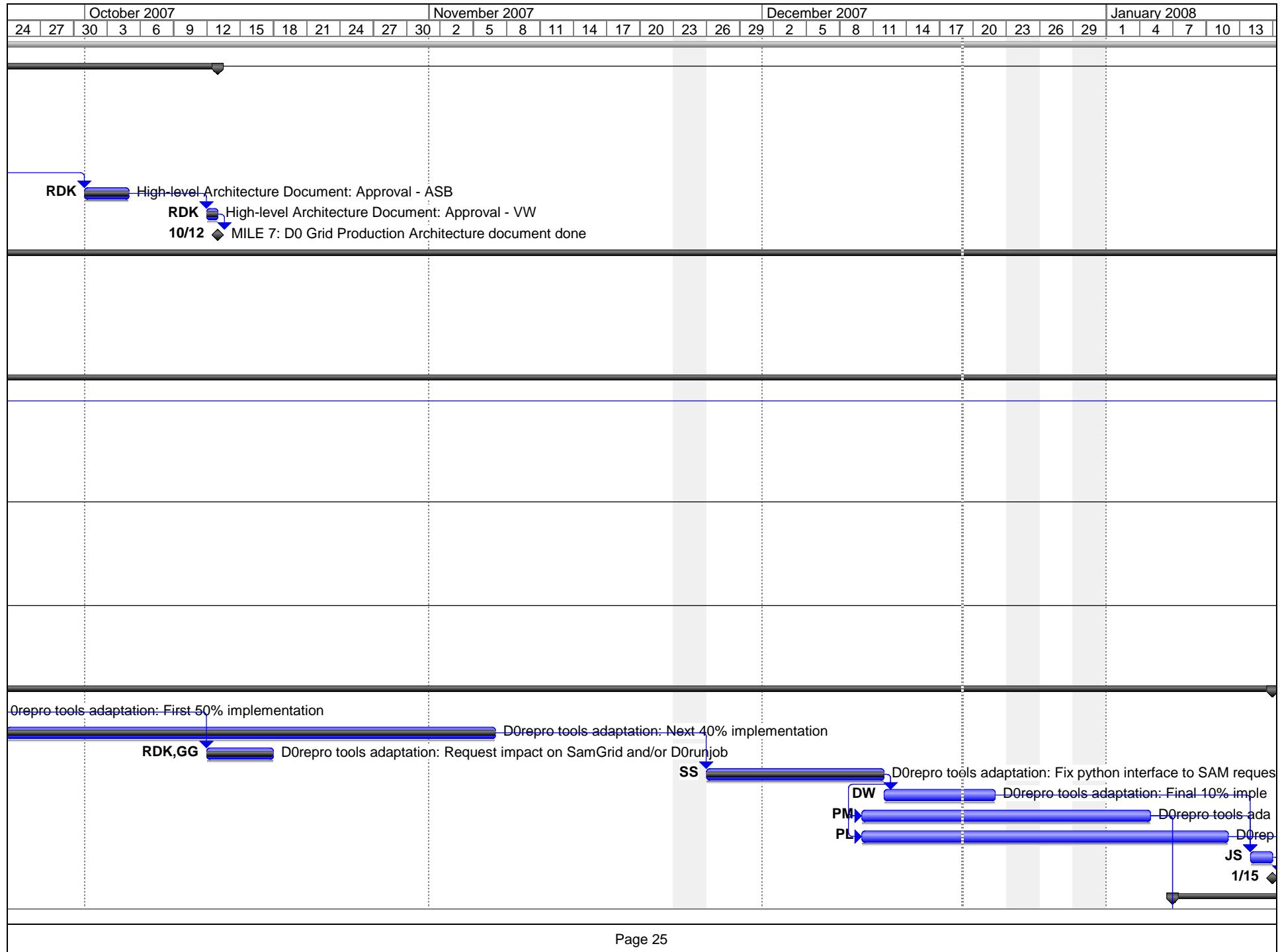


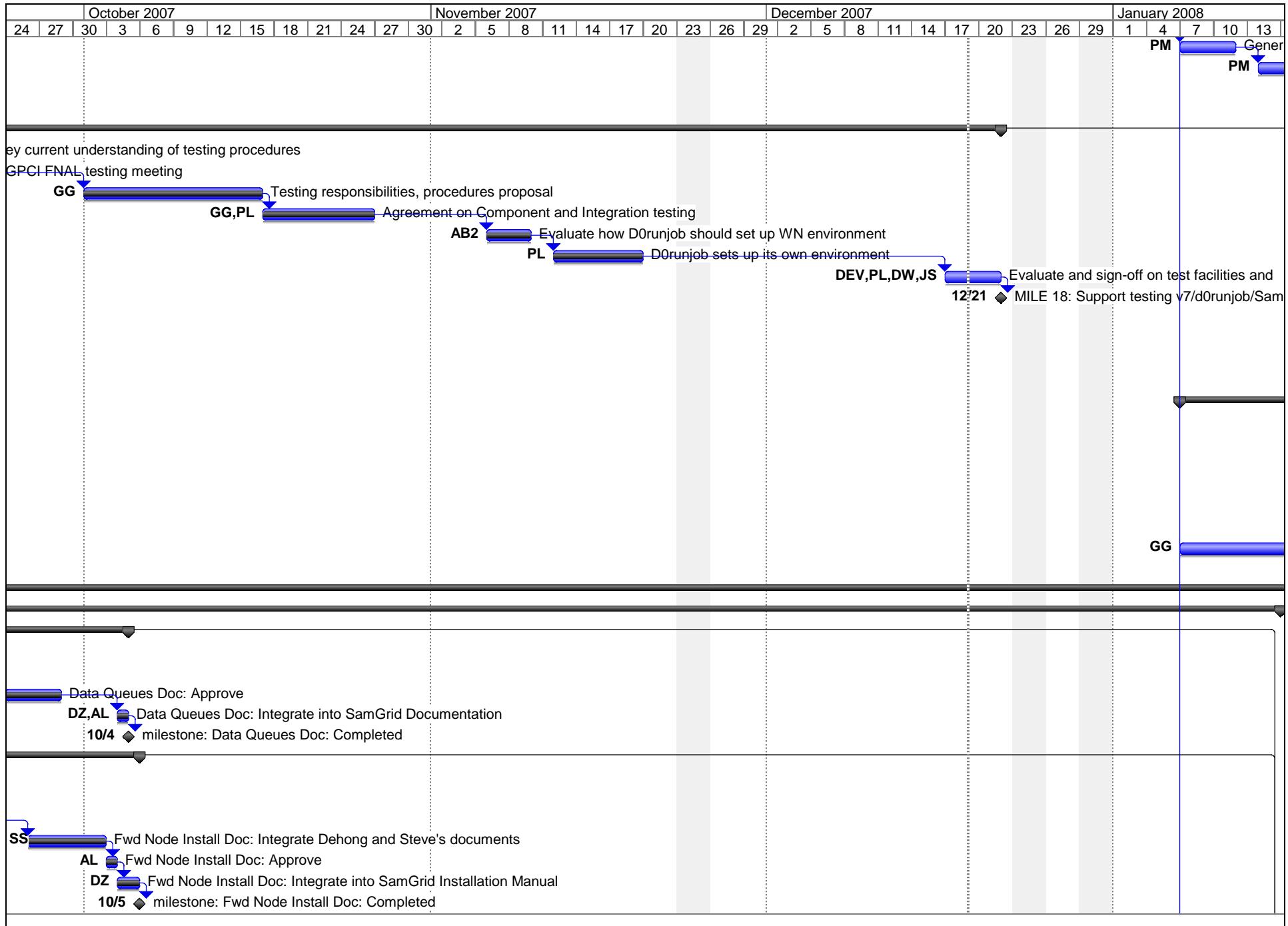


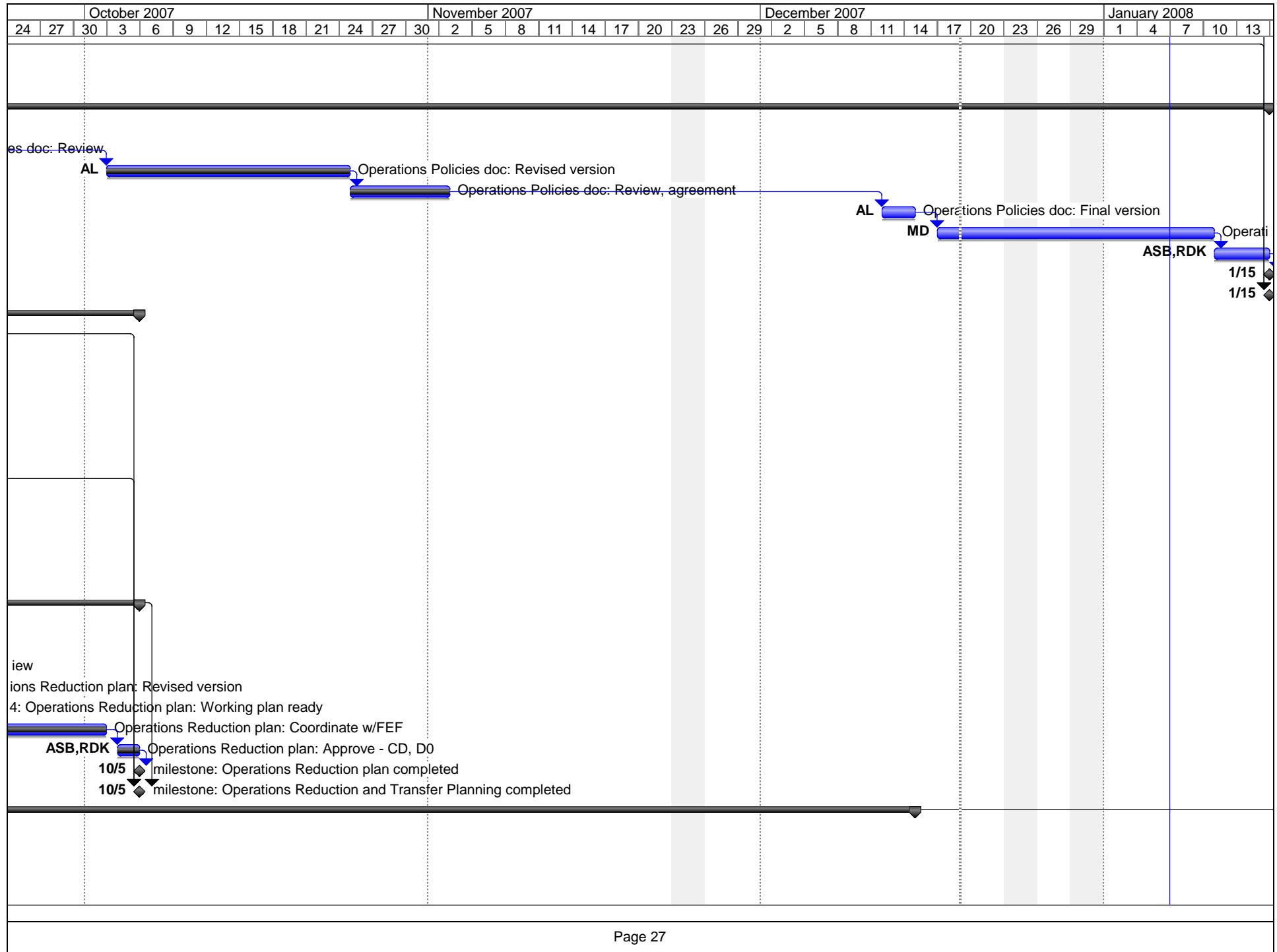


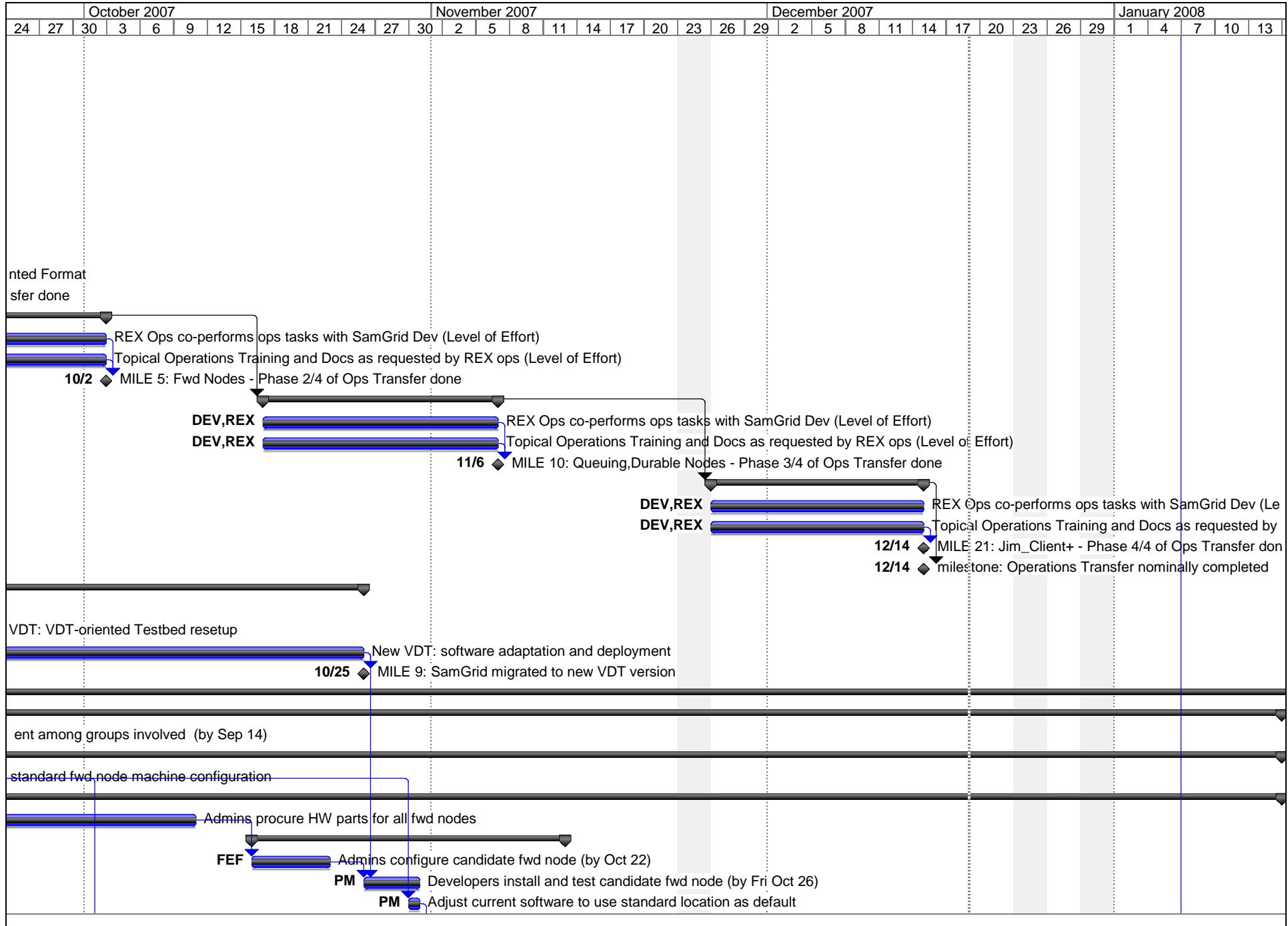


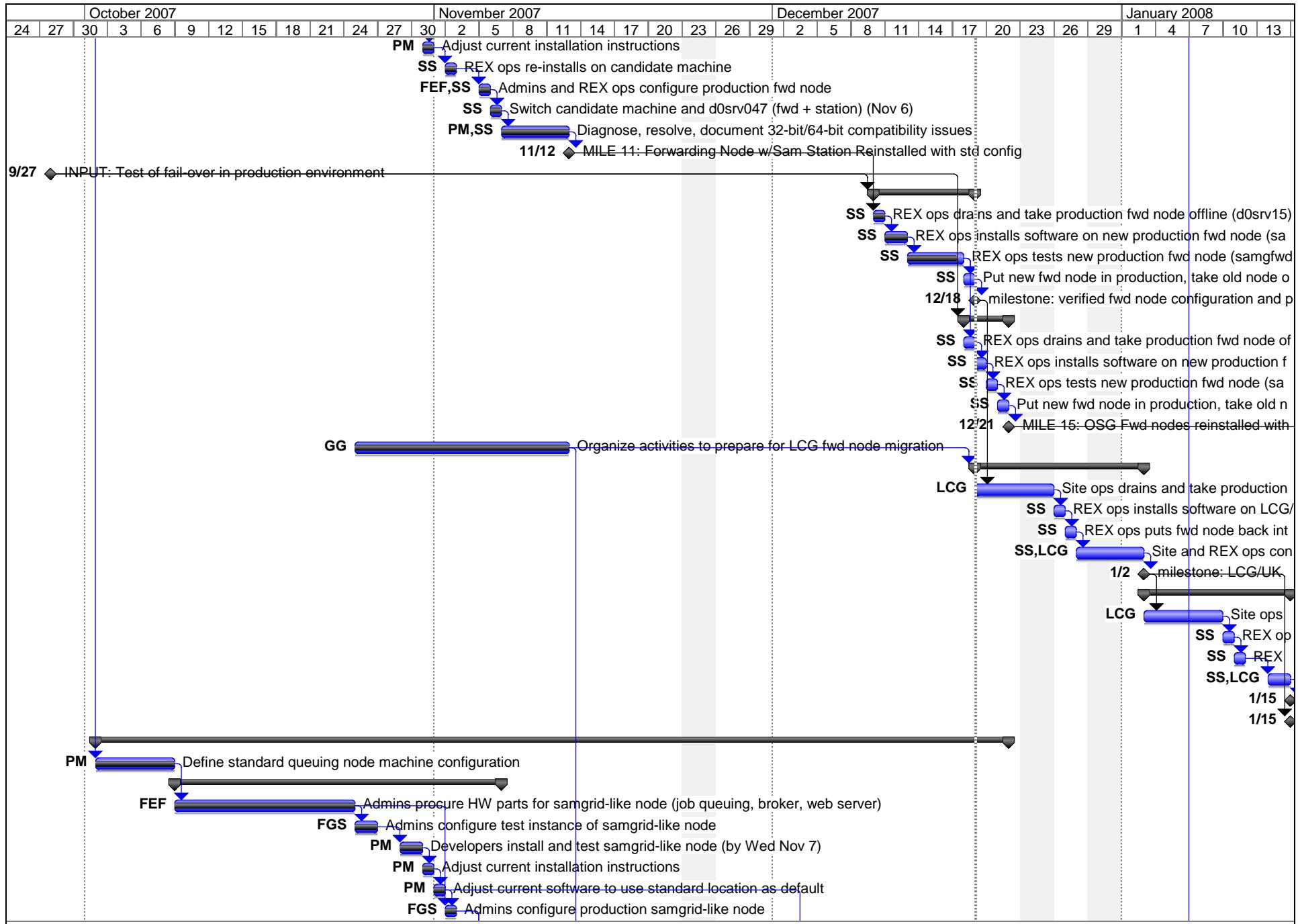
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			23	26	29	2	5	8	11	14	17	20	23	26	29	1	4	7	10	13	16	19	22	25	28	31	3	6	9	12	15	18	21		
Wed 7/18/07	Mon 10/8/07															RDK																			
Tue 10/9/07	Thu 1/31/08																																		
Mon 3/24/08	Tue 4/1/08																																		
Mon 3/24/08	Mon 3/24/08																																		
Tue 3/25/08	Wed 3/26/08																																		
Thu 3/27/08	Mon 3/31/08																																		
Tue 4/1/08	Tue 4/1/08																																		
Tue 4/1/08	Tue 4/1/08																																		
Tue 4/1/08	Tue 4/1/08																																		

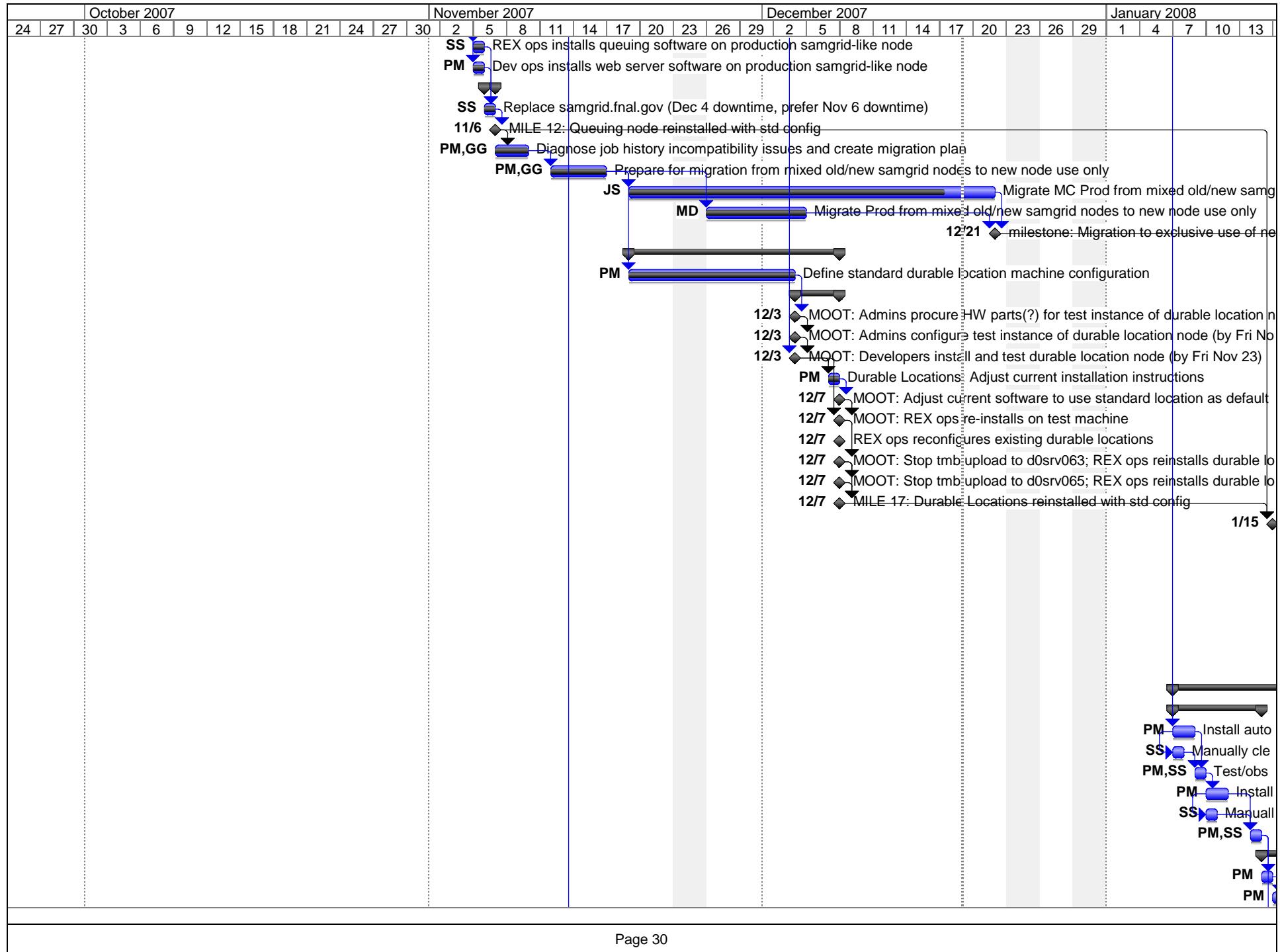


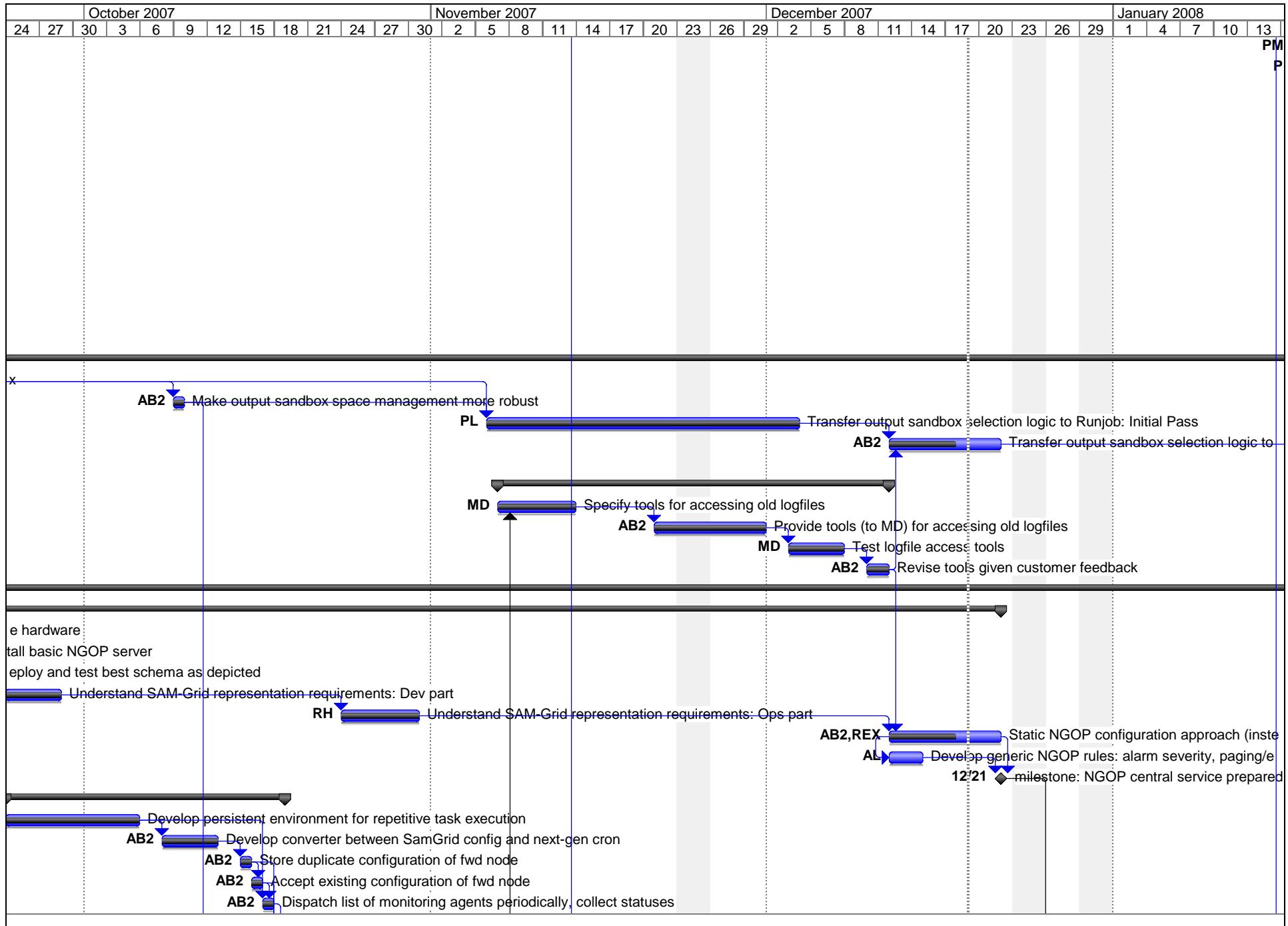


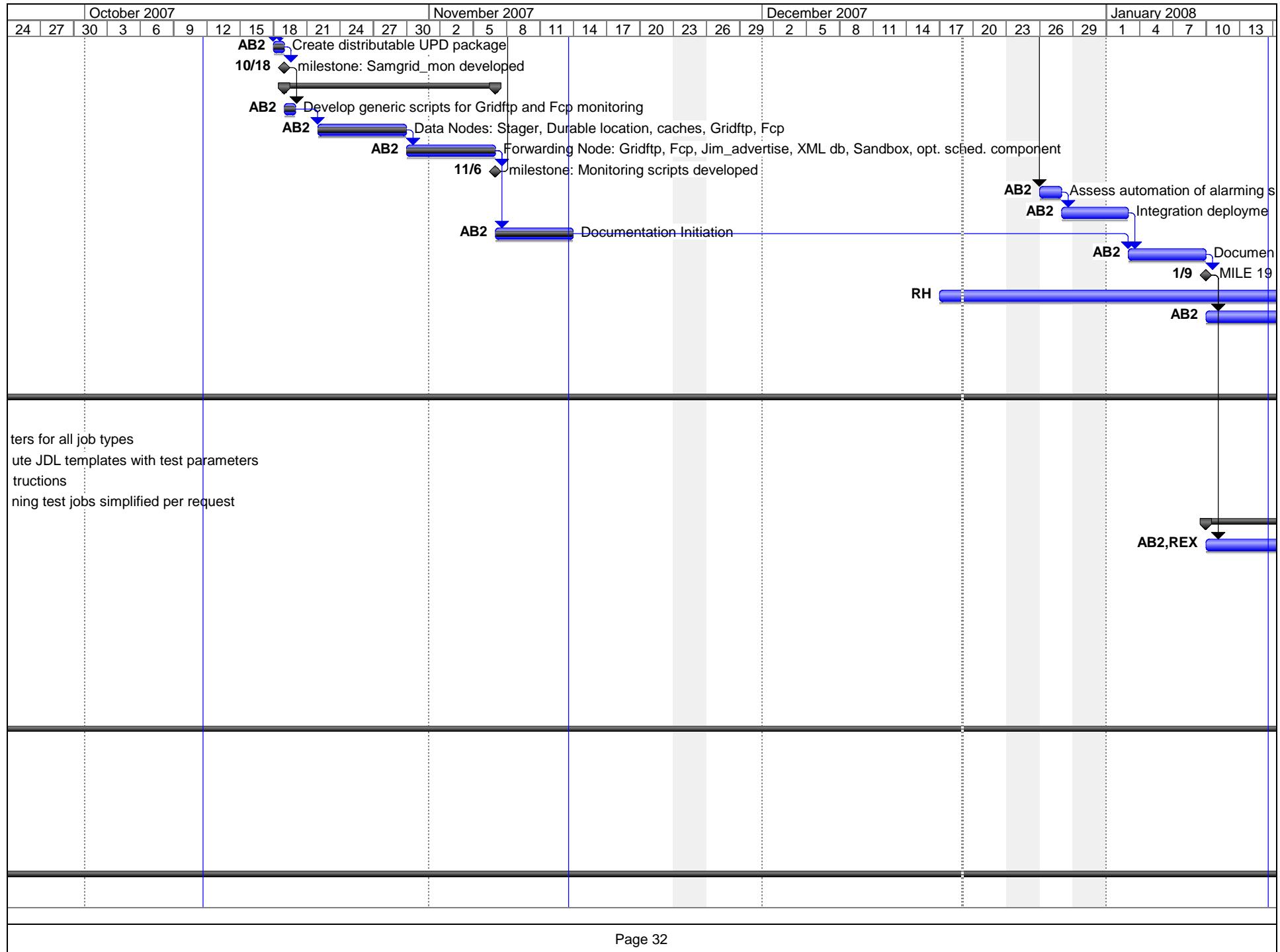


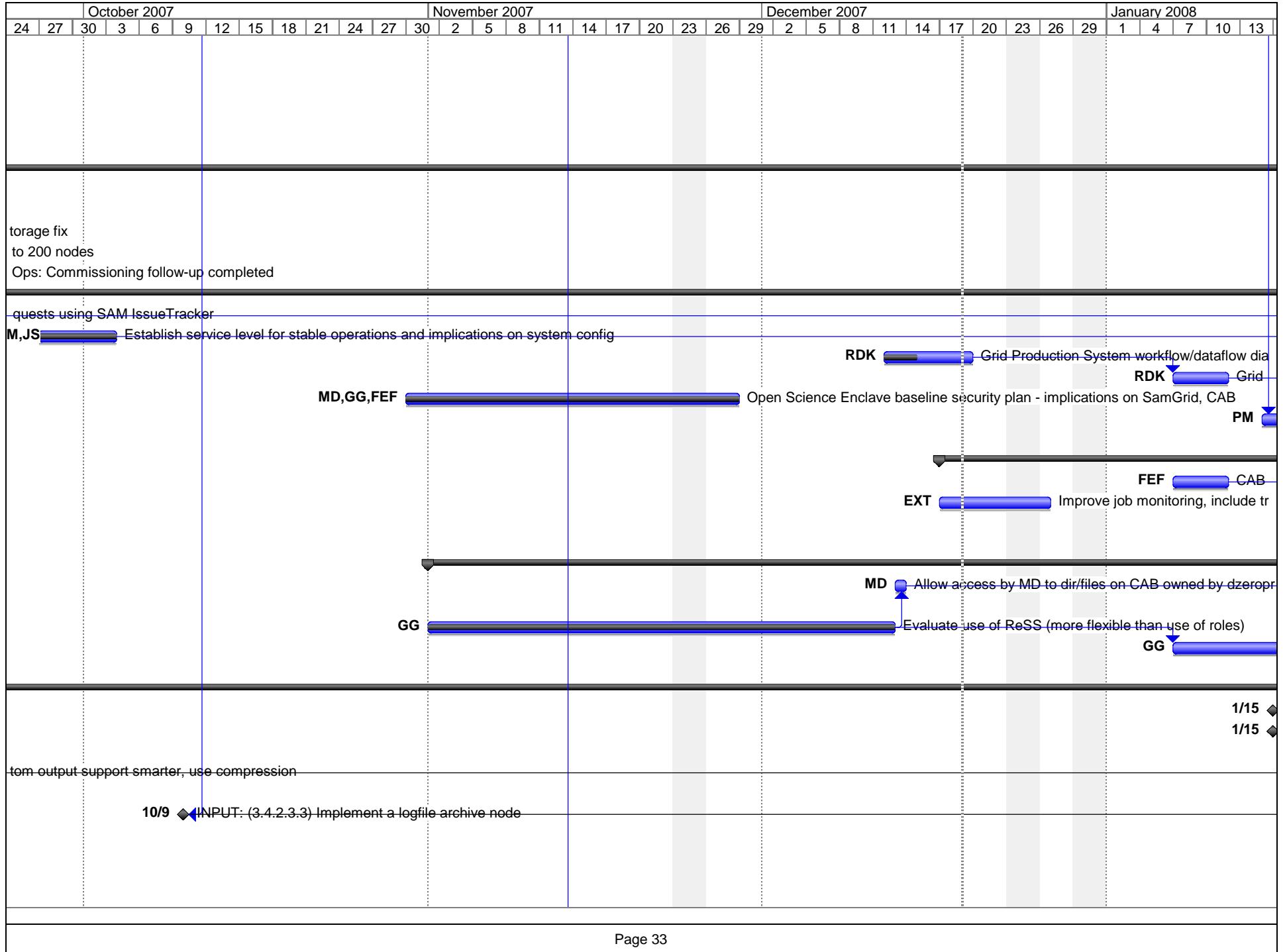


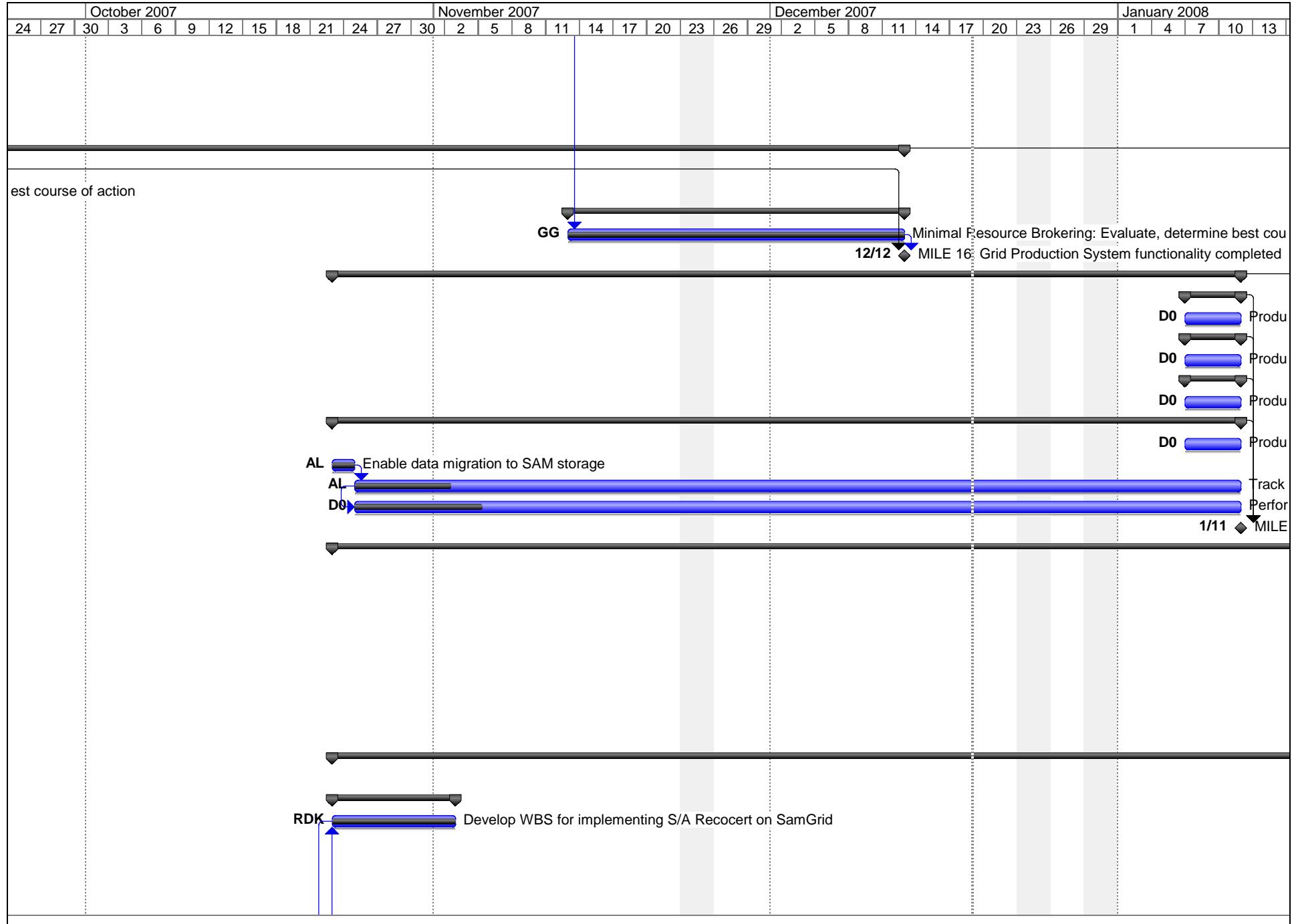


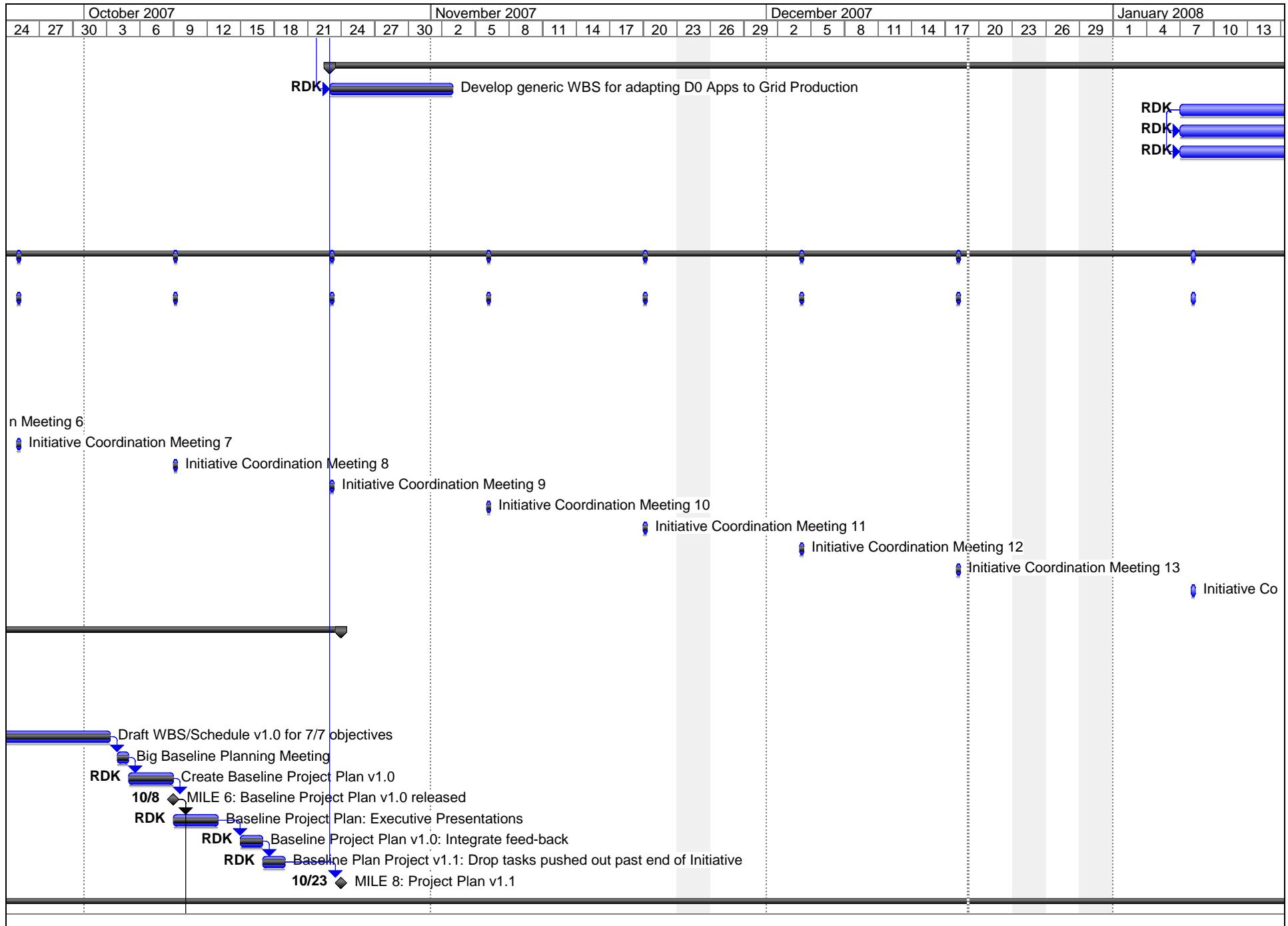




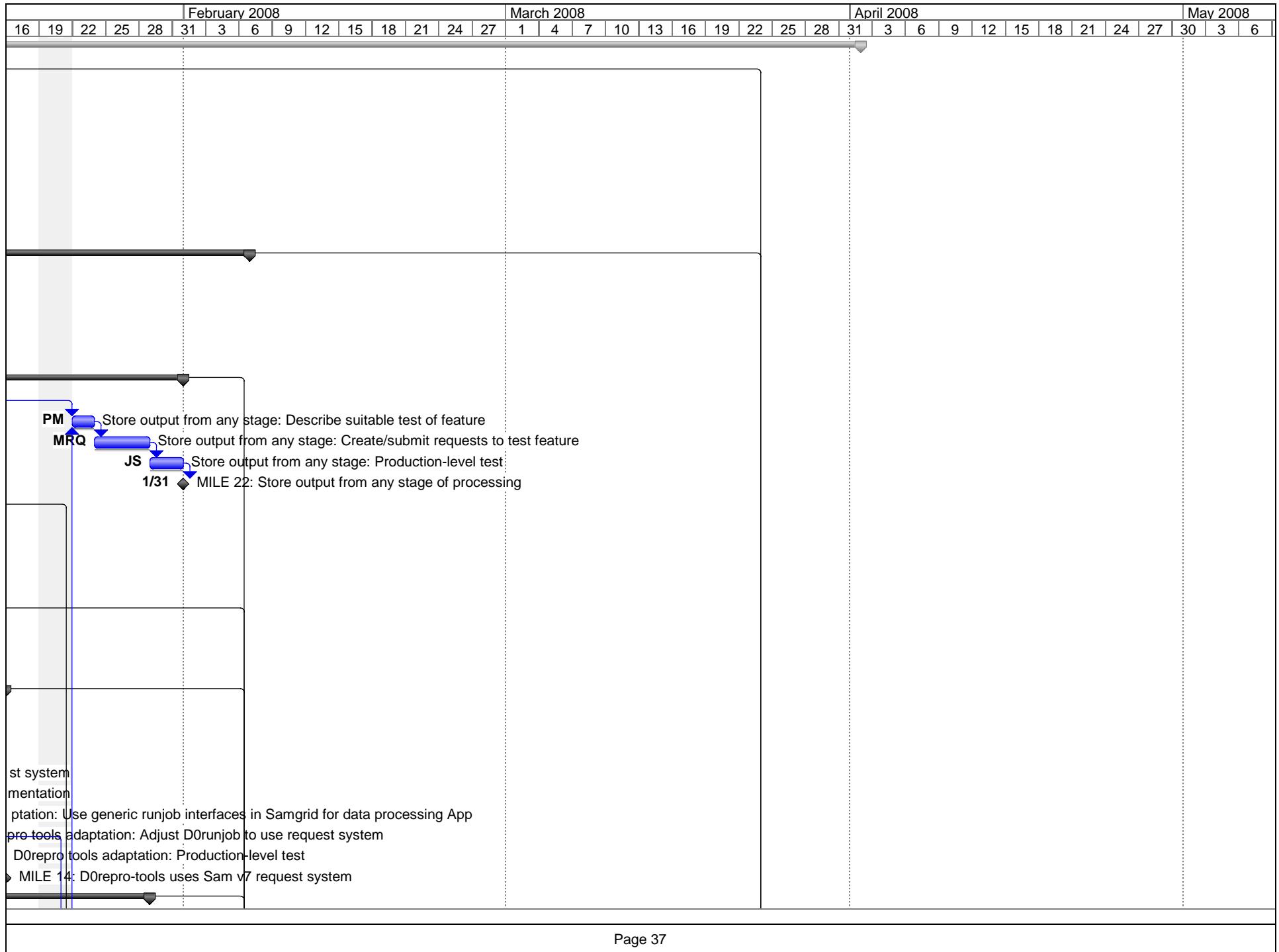


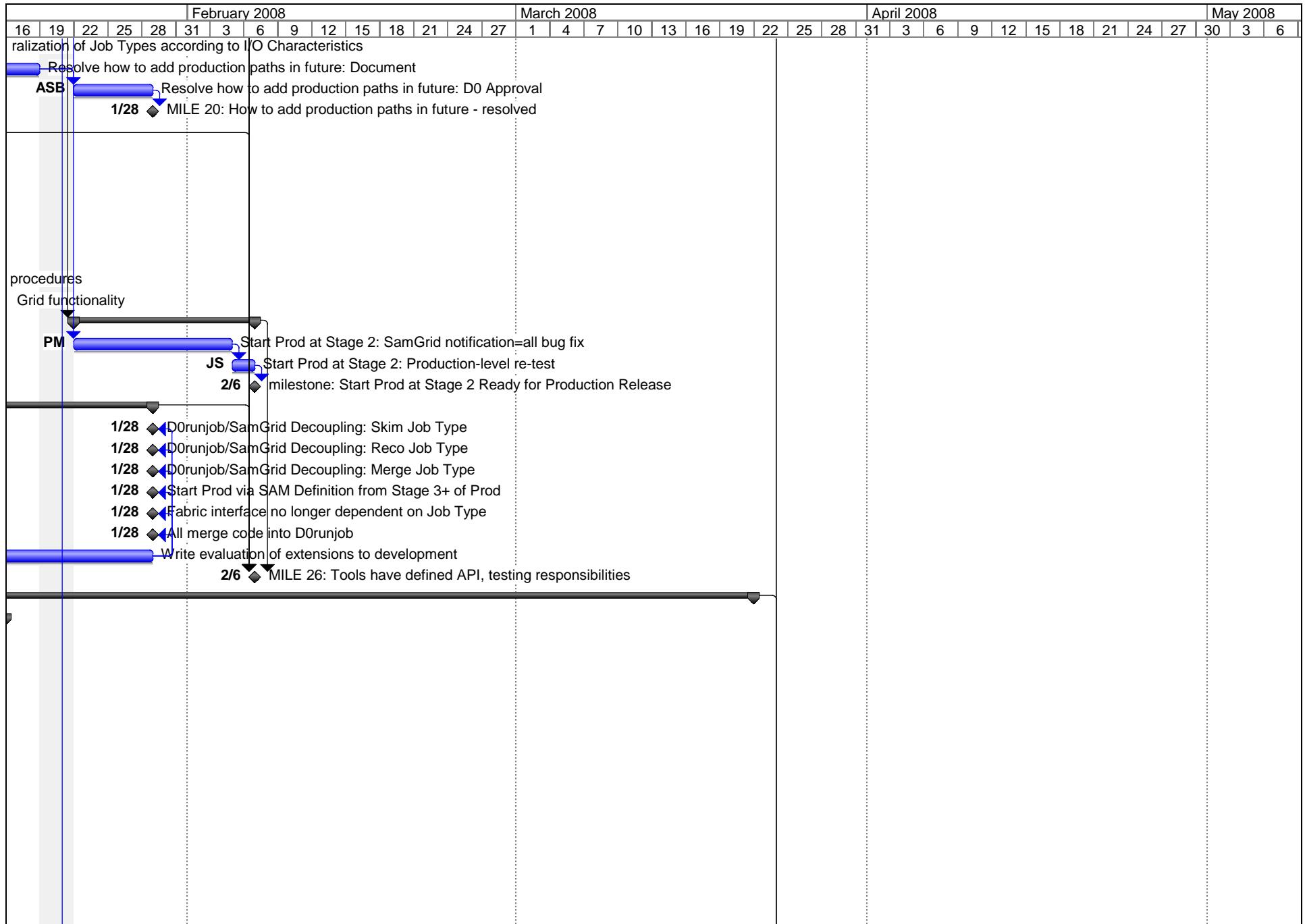






October 2007								November 2007								December 2007								January 2008													
24	27	30	3	6	9	12	15	18	21	24	27	30	2	5	8	11	14	17	20	23	26	29	2	5	8	11	14	17	20	23	26	29	1	4	7	10	13
Planning Phase (Level of Effort = 5%)																																					
RDK																																					





February 2008												March 2008										April 2008										May 2008					
16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	1	4	7	10	13	16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	30	3	6

ions Policies doc: Stakeholder Review

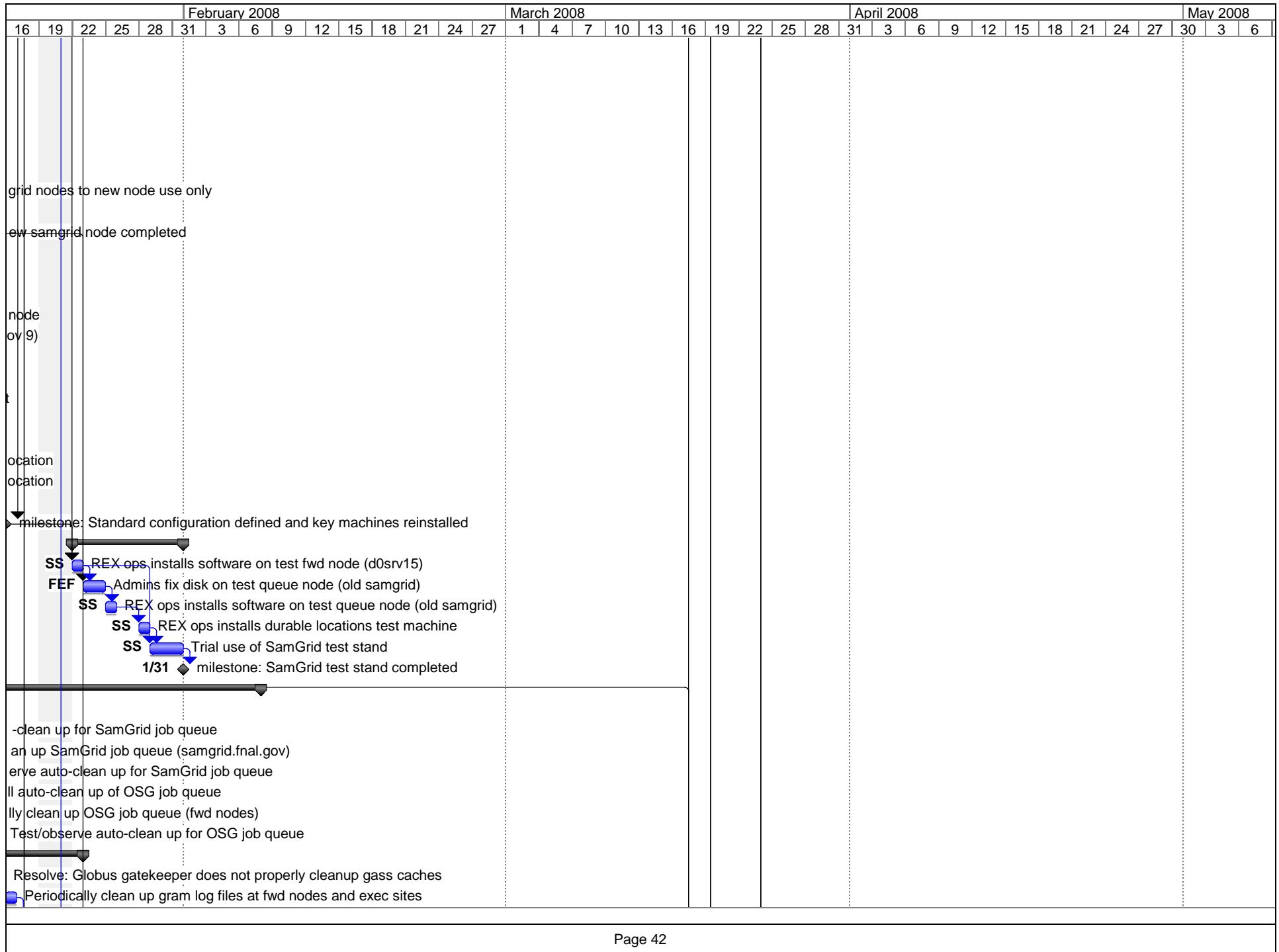
Operations Policies doc: Approve - CD, D0

► MILE 13: Grid Production Operations Policies doc done

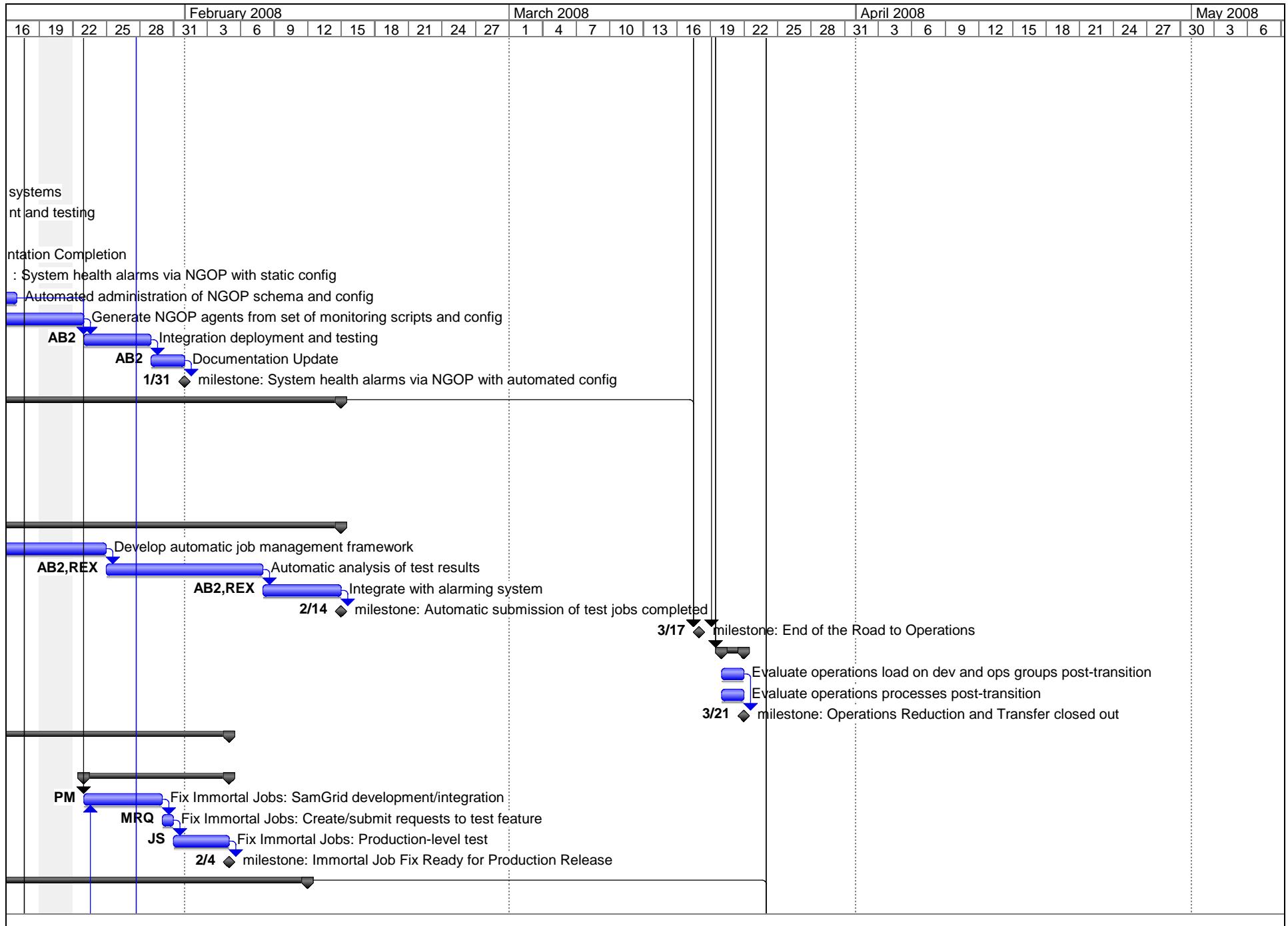
► milestone: Operations Documentation completed

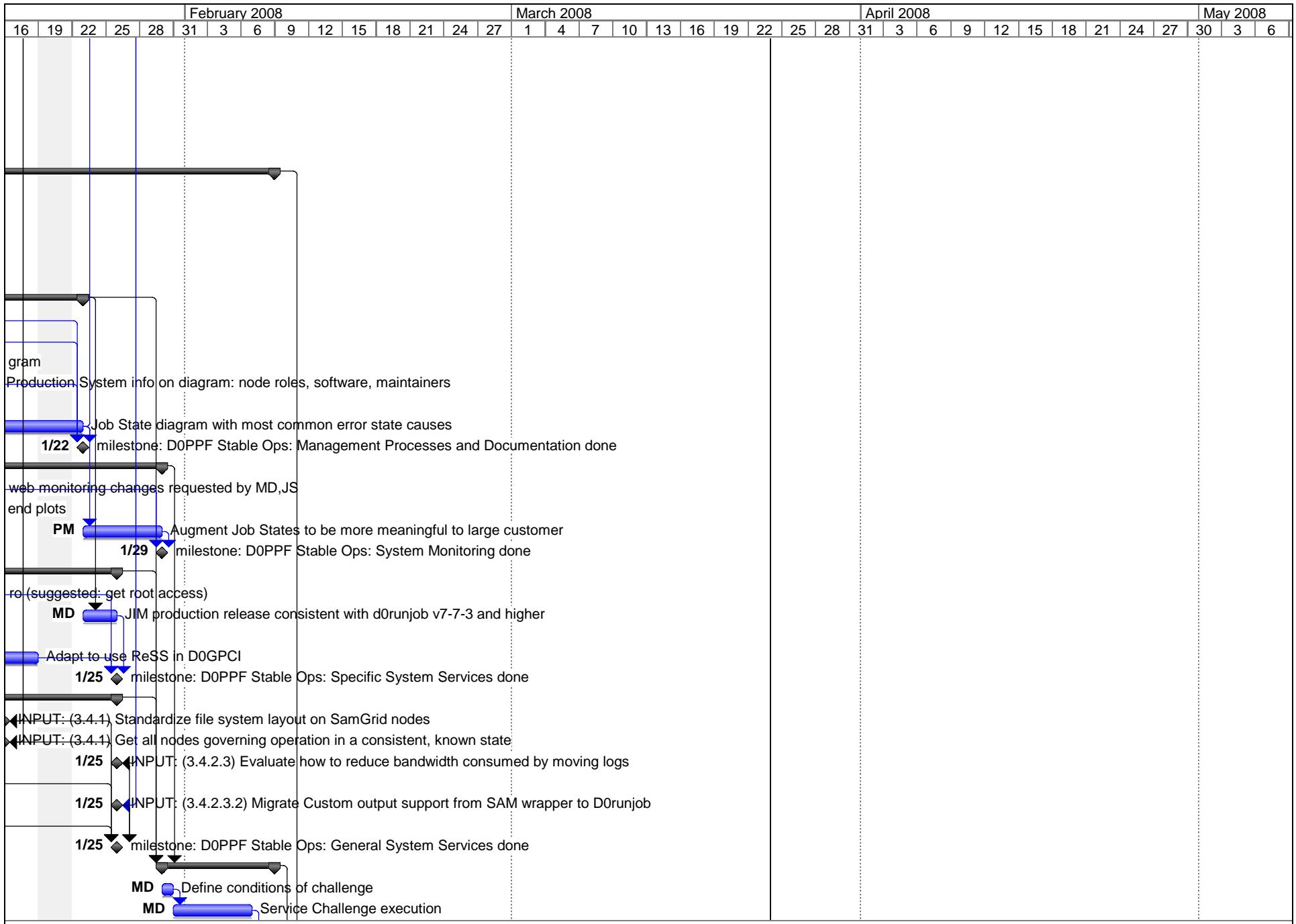
February 2008													March 2008										April 2008										May 2008						
16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	1	4	7	10	13	16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	30	3	6		
vel of Effort)																																							
REX ops (Level of Effort)																																							

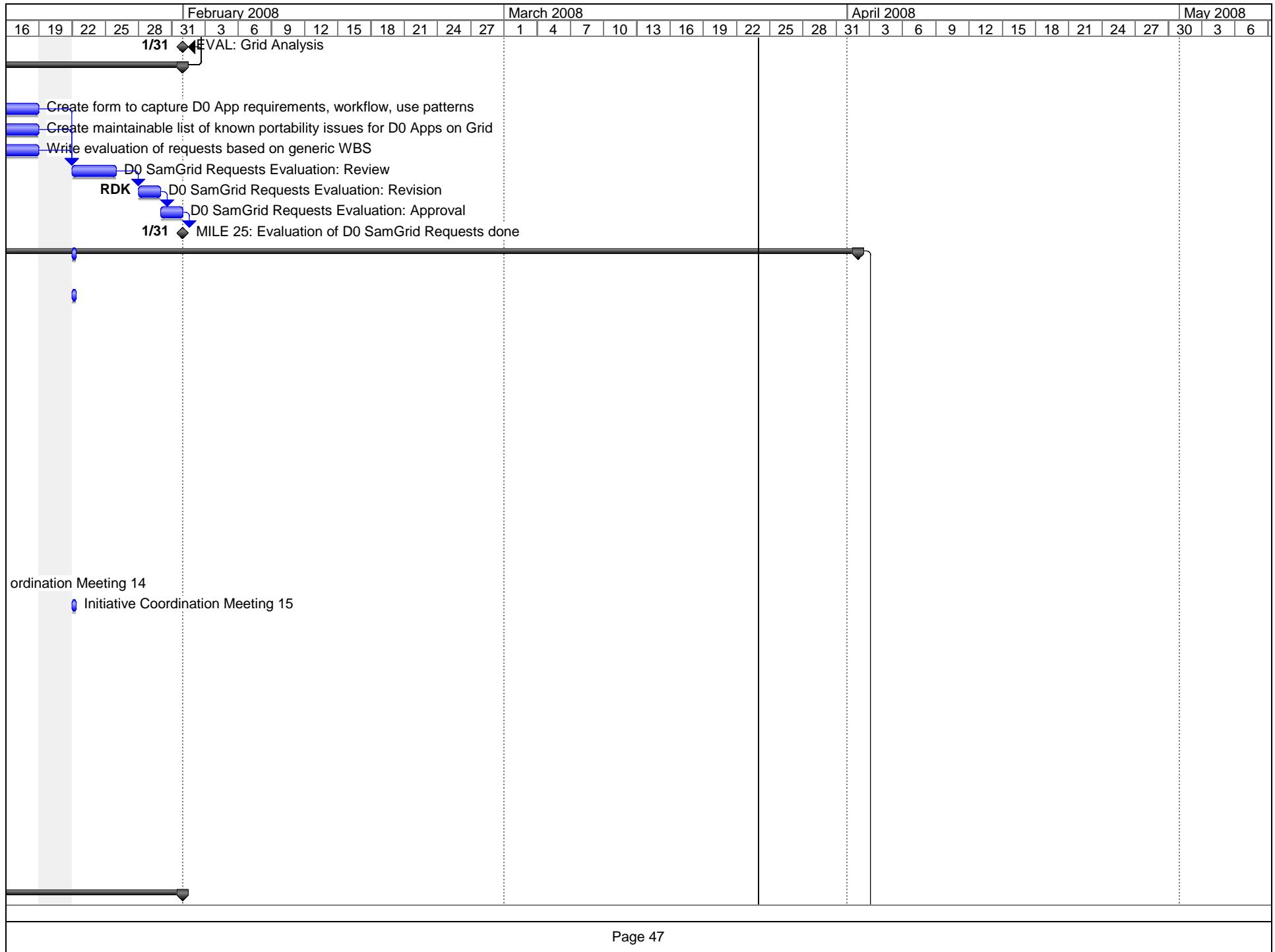
February 2008												March 2008												April 2008												May 2008						
16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	1	4	7	10	13	16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	30	3	6					
)																																										
mgfwd02)																																										
d02)																																										
ut (samg fwd02, old: d0srv15)																																										
procedure																																										
ffline (d0srv66)																																										
fwd node (samg fwd03)																																										
mgfwd03)																																										
ode out (samg fwd03, old: d0srv66)																																										
std config																																										
fwd node offline																																										
/UK fwd node																																										
to system																																										
nfigure production fwd node																																										
Forwarding Node reinstalled with std config																																										
drains and take production fwd node offline																																										
ps installs software on LCG/Germany fwd node																																										
ops puts fwd node back into system																																										
Site and REX ops configure production fwd node																																										
► milestone: LCG/Germany Forwarding Node reinstalled with std config																																										
► milestone: Forwarding nodes reinstalled with standard configuration																																										

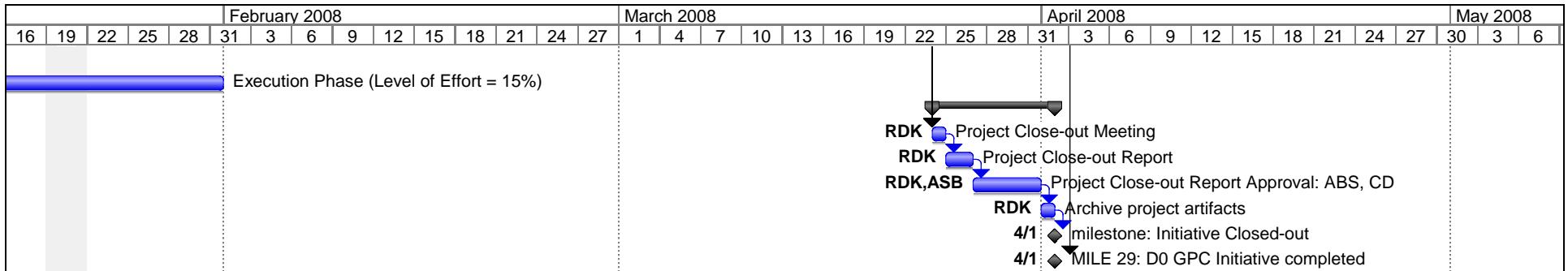












Project: D0 Grid Production Computing Date: Wed 12/19/07	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	